

Assessing the Impact of Gambling on Public Safety in Massachusetts Cities and Towns

Analysis of changes in police data after the first year of operation at Plainridge Park Casino

Christopher W. Bruce

Consultant to the Massachusetts Gaming Commission

December 12, 2016

v. 1.1

Table of contents

Executive summary	3
Background and methodology.....	6
Historical review	13
Incidents at Plainridge Park	17
Before-and-after analysis of general crime statistics	21
Before-and-after analysis of calls for service.....	35
State police statistics	40
Comparison to changes in other communities.....	43
Appendix A: Abbreviation and definitions.....	47
Appendix C: Data schematic and fields.....	51

Important note

In any given time period, communities will experience fluctuations, many of them significant, in public safety issues, including calls for service, traffic collisions, and crime. The opening of a facility like Plainridge Park can occasion such changes, but so can dozens of other instigating factors, including serial offenders, other changes in the residential and business communities, weather, economy, and simple random fluctuations in the data.

Many statistics are offered in this report that show increases and decreases in certain categories in Plainville and surrounding communities. In all cases, when aberrations have appeared, we have done our best to analyze them and determine their cause. Until analyzed, statistics that indicate notable increases or decreases in activity are simply *indicators* worthy of further analysis, and not proof of any particular “cause” of the changes. **No statistic offered in this report should be taken, by itself, as proof of a casino relationship.** Anyone who cites or reports the statistics without a thorough consideration of additional factors is using this report irresponsibly.

Executive summary

Briefest summary possible

Since its opening in June 2015, Plainridge Park has shown crime and call-for-service totals commensurate with similarly-sized and trafficked facilities. As for the surrounding community, the totality of the evidence shows little impact on most crimes and calls for service. The casino may have influenced an increase in credit card fraud, identity theft, and “con games” in the region, although more analysis is needed. The presence of the casino also does seem related in increases in the types of calls for service that one would expect to increase with extra traffic and people in the area, including traffic collisions, lost property, and citizen complaints of traffic problems. The analysis is complicated by changes in reporting practices at several of the participating agencies.

About this report

- The primary purpose of this report is to conduct an analysis of the increases and decreases in activity in the communities surrounding Plainridge Park since the casino opened and to identify which changes in activity might be attributable to the casino.
- Data was collected from the records management systems of Plainville, Attleboro, Mansfield, North Attleborough, and Wrentham since 2010. July 1, 2015–June 30, 2016 (12 months after the opening of Plainridge Park on June 24) was compared to the same periods of previous years. Both crimes and non-crime calls for service were included.
- Overall crime was down in the communities, but there were significant variances across communities and across crime categories within individual communities.
- Any significant increases were analyzed in more detail with both quantitative and qualitative data. Rarely were we able to establish a casino relationship, and the general sense from the participating agencies was that they did not feel that Plainridge Park had contributed significantly to crime or calls for service. Two agencies cited a heroin epidemic as more likely causing their crime increases.
- To determine likelihood of a casino relationship, we used a rubric of our own design that analyzes the data for several variables: logical connection to a casino, complementary increases in other communities, complementary increases in similar crimes, evidence of increased participation from individuals outside the local area, spatial proximity to the casino, and specific mention of the casino or gambling in the police reports.
- Comparisons to control areas throughout eastern Massachusetts generally confirm the observations from the agency data, but a full year dataset is not yet available for the rest of the state, so the comparisons are only partial.
- Some of the variances can be explained by changes in reporting practices.

The following observed changes are *likely* to be related to Plainridge Park:

- Increases in **traffic-related calls for service** specifically in Plainville, concentrated on Route 1. These include complaints of improper or erratic driving and suspicious activity. Although little data is available for these calls for service (they do not result in written reports), their geographic concentration suggests that they could be caused by the increased traffic up and down Route 1 since the opening of Plainridge Park. North Attleborough also had an increase in traffic complaints along Route 1. Similarly, an increase in “**lost property**” calls is likely to be related to the extra people in town.

- A small increase in **traffic collisions** in the area, again likely occasioned by increased traffic (although as covered below, we were in an era of record-low gas prices and fair weather, which tends to increase driving in general). The data is inconsistent, however, and Plainville itself had a small decrease. Traffic collisions specifically should be the subject of a more complete study when statewide data is available in 2017.
- Significant increases in **credit card fraud**, particularly in Plainville, Attleboro, and Wrentham. The specific nature of the relationship is still unclear, but all quantitative evidence suggests Plainridge Park is a causal factor, and at least one likely pattern is discussed below.

The following observed changes are *possibly* related to Plainridge Park:

- Increases in “**con game**”-style fraud and **identity theft** in Attleborough, Mansfield, and North Attleborough. Preliminary indications are that these increases are due to changes in reporting practices, but as they complement increases in credit card fraud, there may be a casino relationship. On the other hand, statewide data shows these categories increasing more in comparison communities than in the Plainville area.
- An increase in **drunk driving**, particularly in North Attleborough. By the agency’s own admission, the increase is likely to be related to changes in enforcement and coding practices. (Drunk driving “incidents” are usually reported when the police proactively make an arrest; increases are thus not necessarily an indicator of more drunk driving in the region.) However, this is one of the crimes of particular concern, and it will need to be studied, along with traffic collisions, when better statewide traffic data for the time period is available in 2017.

The following observed changes were reported by the participating agencies but are *unlikely* to be related to Plainridge Park for reasons stated.

- An area increase in simple assault seems to be related to improved data coding (with incidents coming from the aggravated assault category) rather than a true increase in violence.
- An “increase” in prostitution (to a total of 3 incidents for the year). Each case was studied and no relationship between the participants and the casino was established.
- An increase in non-violent “family offenses” seems to be related to changes in coding.
- Increases in kidnapping in Plainville were studied individually and shown to be domestic incidents with no casino relationship.
- Many other crime increases were due to small baseline numbers in the first place. In each instance, reviews of individual cases found no Plainridge Park relationship.
- Two drug incidents (from an area average of 0.2), both in Wrentham, were reviewed and the participants were not customers of Plainridge Park.
- Increases in vandalism in Plainville could not be tied, through data or logic, to any casino relationship.
- A large increase in burglary in North Attleborough was attributed to two local serial offenders (both heroin addicts) with no casino-related motives.
- Increases in disorderly conduct, drunkenness, liquor law violations, and trespassing reported by North Attleborough were attributed by the agency to changes in reporting practices and not “real” increases. Since the increases were not experienced by other agencies and they began early in 2015, their explanation seems sensible.
- An increase in psychological calls for service in the region (primarily in Attleboro) was studied for a casino relationship but none could be determined.

Further research

The following research topics must await the availability of more time and more complete datasets at the state level.

- A full analysis of traffic collision patterns in the Plainville area, with comparative statistics from control communities.
- A full analysis of the Plainville area against comparison areas once an entire year of IBR data is available at the state level.
- A study of Plainville area calls for service in comparison to control communities. This data does not exist in any statewide repository and will have to be collected individually from willing comparison communities.

Background and methodology

In 2014, the Massachusetts Gaming Commission, in an effort to better assess the impacts of new gaming facilities across the state, commissioned a series of efforts to study, assess, and prepare for the social and economic impacts of gambling. Primary work in this area is being done by the Social and Economic Impacts of Gambling in Massachusetts (SEIGMA) study at the University of Massachusetts Amherst School of Public Health & Health Sciences, drawing upon research and experiences in many other states. For public safety issues specifically, however, the MGC felt it best to contract with someone with direct experience analyzing the crime, call-for-service, and collision records collected daily by Commonwealth police agencies.

While many studies had attempted to study the effects of gambling on overall rates for serious crimes, aggregated annually, hardly any studies have attempted to analyze more specific and minute changes in public safety activity following the opening of casinos, including variations by hour, month, and season, changes in patterns and hot spots, and changes in non-crime activity such as traffic collisions and calls for service. The MGC was interested in the answers to these questions—in analyzing public safety at a level of detail that would actually help police agencies anticipate and respond to emerging and changing problems.

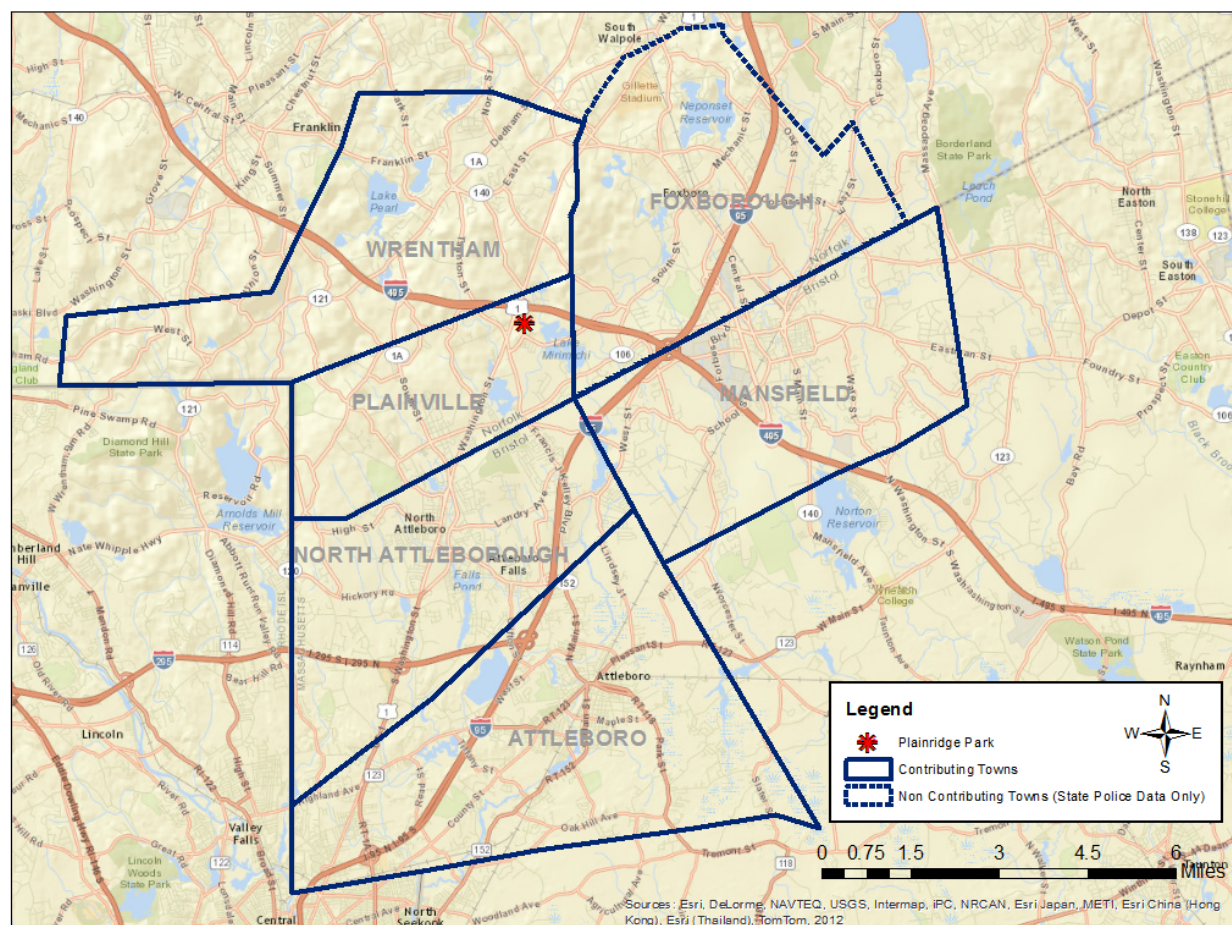


Figure 1: The area covered by this report.

In 2014, the MGC contracted with a career crime analyst, the author of this report, to extract data from the agencies likely to be affected by the opening of Plainridge Park in Plainville; to prepare a baseline analysis of public

safety activity in the Plainville area for the past 5 years; and to design a process for assessing changes on a quarterly basis after the opening of Plainridge Park. In August 2015, MGC released a report of “baseline” statistics for the Plainville area agencies, with annual totals of the types of crimes, calls for service, and collision data against which post-casino periods would be compared.

In April 2016, MGC released a report covering the first six months of casino operations. The report was based on somewhat limited data, and comparison data from other communities was not yet available.

This is the first public report summarizing a full year of changes in crime, calls for service, and collisions. It covers the period of July 1, 2015 through June 30, 2016, in most cases comparing activity to the same period in previous years and in other communities. The report offers both general statistics and detailed analysis of observed changes. The intention of this report is to demonstrate, comprehensively, what changes on crime, disorder, and other social harms can be attributed directly or indirectly to Plainridge Park, and what lessons we can draw from these findings. We hope that the results can benefit police operations, state and local programs, and further research projects.

We anticipate releasing another report in a year, as well as subsequent reports that detail changes seen in other casino host communities as those facilities open.

Methodology

The data used in this report was extracted from the individual records management systems of the Plainville, Attleboro, Mansfield, North Attleborough, and Wrentham Police Departments. I first established an ODBC connection to each of these agencies’ records management and computer-aided dispatch databases (Plainville, Wrentham, and North Attleborough use the Pamet records management system; Mansfield uses IMC; and Attleboro uses QED). I then connected to the databases via Microsoft Access, and used a series of “make table” queries to copy the data into Access data tables. I then copied the Access databases to my own computer, password-protecting them in the process, but leaving the originals on the agencies’ networks so they could be updated by designated agency members when necessary. Appendix B lists the data fields collect from each system.

After extracting the data from each individual system, I combined each table into a series of “master” tables. This required translating each dataset into a common set of codes. The uniformities imposed by the NIBRS reporting system and the Massachusetts crash reporting system made the translations fairly easy for crime and crash tables; it was a bit more difficult for CAD tables, which have no uniform data structure from system to system or even among agencies using the same system.

The Massachusetts State Police directly supplied me with datasets out of the agency’s various reporting systems, including the statewide RAMS system that stores crashes, crimes, and other incidents for all barracks plus supplemental data kept by the Gaming Enforcement Unit assigned to Plainridge Park.

The Foxborough Police Department was invited several times to participate in this analysis but declined to submit the detailed data necessary for this analysis.

In August 2015, we issued a “baseline” report that aggregated annual crash, crime, and call-for-service data for each agency, offering a series of examples of what was possible with the baseline dataset. In April 2016, we compared this baseline dataset with activity observed in the region during the first six months of Plainridge Park’s operations. We highlighted a number of statistical anomalies worthy of investigation and analyzed them in detail with assistance from the participating agencies. This report expands this analysis to a full year for most datasets, although a full-year analysis of comparison communities and traffic collisions will have to await the availability of better datasets at the state level in 2017.

incnum	agency	dtreceived	IncidentType	OrigIncidentType	Street
15-15178	Mansfield	07/12/2015 18:38:00	Crime Enforcement		SCHOOL ST
2015000005935	Wrentham	07/12/2015 18:37:43	Traffic Collision		Washington Street
2015000018989	North Attleboro	07/12/2015 18:32:58	Domestic Dispute	Domestic	SOUTH WASHINGTON S
15072062	Attleboro	07/12/2015 18:31:54	Building Check	SEC CHK	OAKHILL AVE
2015000005934	Wrentham	07/12/2015 18:30:42	Disorderly		Premium Outlet Boulev
2015-0H3-003706	MSP	07/12/2015 18:30:00	Fire	Fire	RT 495 North, South of E
2015000003935	Plainville	07/12/2015 18:27:02	Lost Property	Lost and Found	Bacon Square
2015000005933	Wrentham	07/12/2015 18:26:57	Medical		Washington Street
2015000018988	North Attleboro	07/12/2015 18:26:12	Building Check	Building Check	HOMEWARD LN
15-15177	Mansfield	07/12/2015 18:26:00	Crime Enforcement		SOUTH MAIN ST
2015000005932	Wrentham	07/12/2015 18:25:54	General Service		Premium Outlet Boulev
2015000018987	North Attleboro	07/12/2015 18:25:29	Investigation	Investigation	SOUTH WASHINGTON S
15-15176	Mansfield	07/12/2015 18:17:00	Traffic Enforcement		MAPLE ST
2015-0H3-003705	MSP	07/12/2015 18:16:00	Road Conditions	Debris in Road	RT 295 South, South of E
15072061	Attleboro	07/12/2015 18:14:43	Suspicious Activity	SUSP PERS	PLEASANT ST
2015000018986	North Attleboro	07/12/2015 18:11:41	Traffic Collision	Accident NO/PI	CUMBERLAND AV

Figure 2: Data combined into a master call-for-service table.

Interpreting the statistics in this report

In most sections, this report compares July 2015–June 2016 totals to the same periods in years prior, measuring change against an **average** (mean) number of incidents compared to 2015–2016 in terms of the number of **standard deviations** from the average. Change is measured not in percentages, which is somewhat meaningless, but in **z-scores**.

The z-score represents the number of standard deviations from the average above or below which the 2015–2016 figure falls. (It is calculated by subtracting the average from the 2015–2016 figure and dividing by the standard deviation.) Consider the average and standard deviation together as creating a series of “windows” in which we might expect a certain percentage of the cases to fall. In a normal distribution, 68% of observations will fall within a one standard deviation “window” and 95% will fall within a 1.96 standard deviation window. Since we have only 5 years of past data, these specific percentages don’t hold, but they come close. In the table below, for instance, we would expect at least 3 of the past 5 years of disabled vehicle calls to fall between 47.56 (57.8-10.24) and 68.04 (57.8+10.24), and they do. We would expect all of them (or, occasionally, all but one) to fall within two standard deviations: 37.32 to 78.28. Again, they do¹.

Crime Type	2011	2012	2013	2014	2015	Avg.	St. Dev.	2016	Z
Alarm	194	224	173	197	241	205.8	23.93	226	0.84
Disabled Vehicle	48	46	67	72	56	57.8	10.24	85	2.65
Disorderly	91	82	87	89	105	90.8	7.70	97	0.80
General Service	240	187	152	169	205	190.6	30.39	196	0.18

When a score for 2015–2016 is well above 1 standard deviation, as in the case of disabled vehicles here, two things are possible:

¹ Statisticians may object that we do not have enough past observations to establish a normal distribution, or for the significance levels associated with various z-scores to hold. These are valid criticisms. Unfortunately, there is no way out of the conundrum. It would be absurd to reach back dozens of years to collect enough annual totals to establish the true shape of the distribution, even if the agencies had such historical data, because we would be comparing 2016 with periods with radically different demographic and economic profiles for the jurisdiction. At the same time, seasonal variations in crime and calls for service make it unwise to use the month as the unit of analysis simply to obtain more variables. Our goal here in using the z-scores is not primarily to establish statistical significance but to identify combinations of incident types and geographic areas worthy of further study to identify potential casino relationships. For such purposes, the z-core is a useful triaging tool.

1. It is simply a random fluctuation. This is unlikely, but possible. In this case, we would only expect a z-score this high by random chance about 1% of the time, but given that we have hundreds of statistics in this report, such statistical flukes are bound to happen occasionally.

2. Some new factor has influenced the statistic to be unusually high in 2015–2016. In such cases, the factor *could* be the presence of Plainridge Park. But it could also be dozens of other factors, including other new businesses, significant economic and demographic changes, changes in weather, or changes in police policies and practices. **High z-scores indicate categories worthy of further study, but only a more detailed analysis can establish the likelihood of a casino relationship.** We have conducted that more detailed analysis with each of the significantly-increased crimes and calls for service in this report, and have reported on the results.

In the six-month report released in April 2016, we considered an increase *significant*, and took the time to analyze it in detail, if the z-score was greater than +2. Such a dramatic change would be expected only about 5% of the time due to random fluctuations, and such a dramatic *increase* would be expected only 2.5% of the time. For this one-year report, with much more data to consider, we considered a z-score significant if it was higher or lower than 1.75. We would expect a z-score change this large only about 8% of the time based on random fluctuations in the data. A slightly more relaxed standard of significance gives us more to analyze to ensure that we aren't missing any significant changes caused by the presence of Plainridge Park.

Determining likelihood of a casino relationship

As we will see in the historical review, past studies have generally limited themselves to a purely quantitative determination of whether a casino was a contributory factor in a crime increase. This study—which blends quantitative and qualitative approaches—is not content to use statistics alone to determine the likelihood that any increase in activity was “caused” by the presence of Plainridge Park. Instead, we have created a model to better demonstrate causality when increases are observed. The model demands a more in-depth analysis of the individual cases that make up “increased” activity during the study period, including a qualitative analysis of police narratives.

The model considers six factors:

1. *Whether the type of activity increasing has a logical relationship to a casino.* Causality is more certain when it “makes sense” that such a crime or other activity would increase in the surrounding area in a particular way. Since casinos draw a large number of people to an area, and since cash plays a large role in their operation, there are very few crimes that would not fit this definition, but it's still worth considering. An increase in theft or traffic issues has a logical connection to a facility like a casino; an increase in harassing telephone calls or animal complaints does not.

2. *Whether more offenders and victims are from outside the local area.* If there is a relationship between an observed increase in activity and the presence of Plainridge Park, one would expect a corresponding increase in the percentage of victims and offenders from outside the immediate community, as the majority of casino patrons are from outside the local community.

3. *Whether multiple agencies are reporting an increase in the same category.* If only one agency reports a major increase in a particular crime and call for service, the cause is more likely to be related to another factor specific to that jurisdiction than to Plainridge Park. Complementary increases reported by multiple agencies strengthen the likelihood of a casino relationship.

4. *Whether related offenses also report increases.* Some crime and call-for-service categories are closely related to each other, so that a factor that influences one is likely to influence the others. If the casino were to cause an increase in traffic collisions, for instance, we might expect a corresponding increase in disabled vehicles, traffic

complaints, and other traffic related calls for service. An increase in a single category without increases in complementary categories is more likely to suggest a fluke specific to that category than a casino relationship.

5. *Whether the spatial distribution of offenses is related to the casino location.* For certain crimes and calls for service, if the presence of the casino caused their increase, we would expect to see a spatial distribution of incidents either near the casino or on routes to and from the casino. An increase in “disorderly conduct” in a residential neighborhood 15 miles from Plainridge Park is less likely to be caused by the casino than an increase in such activity at hotels and restaurants within 1 mile of the casino.

6. *Whether the casino is specifically mentioned by victims and offenders involved in cases.* If an increase in activity is causally tied to the casino, we would expect a certain percentage of victims to say that they were in town to visit the casino, or a certain percentage of offenders (if arrested) to admit that their crimes had something to do with the casino. If we cannot find any such evidence across multiple offenses, a casino relationship is less likely.

The table below summarizes the factors in this model and provides hypothetical examples of when they might argue for or against a casino relationship. The “hypothetical examples” provided are just that—those particular increases were not actually observed.

Factor	Hypothetical example (likely to be related)	Hypothetical opposite (not likely to be related)
Type of crime is logically tied to activity at casino	Increase in robberies in surrounding area	Increase of thefts of property at schools
More offenders and victims are from outside the local area	Increase in domestic dispute and violence calls at area hotels	Increase in domestic dispute and violence calls at area homes
Same category is increasing in multiple agencies	3 of 5 communities see increase in thefts from cars	1 community reports increase in burglary while 4 report decreases
Complementary increases in related offenses	Theft, robbery, and fraud all increase in area	Only identity theft increases in area
Increase is spatially related to location of casino	Traffic collisions increase on Route 1 in Plainville, N. Attleborough	Traffic collisions increase on residential streets in Attleboro
Casino is specifically mentioned by offenders/victims	Drunk drivers mention they were last drinking at casino	Serial burglar admits to stealing for heroin

Application of this model helped us reach a conclusion as to whether the likelihood of an increase in crime or calls for service was related to the presence of Plainridge Park. The more factors from the table that were identified in the data, the more likely the relationship to the casino, and vice versa.

Non-casino factors that may affect the statistics

Before reviewing the statistics and analysis in this report, it is important to cover several factors at work in the Plainville area that might skew the data. Controlling for these factors is somewhat difficult, but since they affect a much larger area, the analysis in the “comparison cities” section of this report should control for some of them.

1. *Greater attention to accuracy in crime coding.* Three of the participating agencies—Attleboro, North Attleborough, and Mansfield—replaced or hired new personnel in charge of coding offenses. North Attleborough appointed a new person to maintain the accuracy of their crime reports (and related data) in September 2014; Mansfield hired a new crime analyst in September 2015; and Attleboro hired a new crime analyst early in 2016. All three individuals found problems with the way many offense reports had been coded and classified before their employment and took steps to improve the data. Unfortunately, these improvements mean that more recent data is difficult to compare to past data. Specific issues are discussed in the relevant sections below.

2. *A surge in the opiate epidemic.* This trend is difficult to quantify, but many police agencies and communities in the northeast United States are reporting significant increases in crime and safety issues related to heroin and other opiates. Widely reported in the media,² this resurgence seems to have begun in late 2014 and has manifested itself in an increase in overdoses and heroin-motivated crime. In speaking about several of the increases in his community, a Wrentham Police lieutenant told me that he “would assume they are more related to the opiate epidemic than to the casino.”

3. *Low fuel prices.* With thousands of new visitors to an area, we might expect increases in traffic-related incidents, including collisions and complaints. These factors, however, are also influenced by the number of road miles driven by the population, which in turn is influenced by fuel prices. Such prices began a precipitous decline in June 2015, just as Plainridge Park opened, and continued to decline through the year, not hitting bottom until February 2016. This decrease likely contributed to an overall increase in driving in Massachusetts for that period, which in turn may have contributed to an increase in traffic-related police issues.

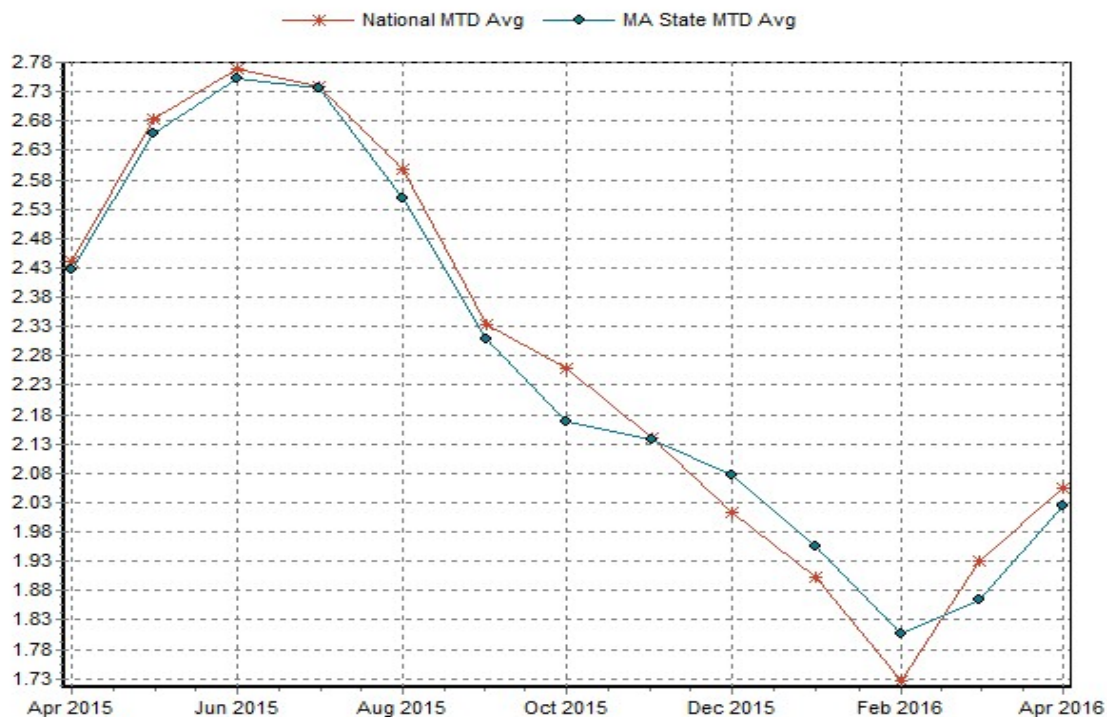


Figure 3: Average fuel prices in Massachusetts and the nation from April 2015 to April 2016. Source: American Automobile Association. (2016). Daily fuel gauge report: Massachusetts fuel prices. Retrieved April 3, 2016, from <http://fuelgaugereport.aaa.com/states/>

² See, for instance: Seelye, K. Q. (2016, March 6). Heroin epidemic increasingly seeps into public view. *The New York Times*. Retrieved March 20, 2016, from <http://www.nytimes.com/2016/03/07/us/heroin-epidemic-increasingly-seeps-into-public-view.html>; Leonard, K. (2015, July 7). Heroin use skyrockets in U.S. Retrieved March 20, 2016 from U.S. News and World Report: <http://www.usnews.com/news/blogs/data-mine/2015/07/07/heroin-use-skyrockets-in-us-cdc-says>

4. *A mild winter.* And old adage says that “rain is the best policeman.” The same might be said of snow. Across the country, agencies observe a strong negative correlation between temperature, precipitation, and crime: as the thermometer goes down and rain and snow go up, crime decreases. This is partly because no one, even a criminal offender, wants to be out in the cold and wet, but it’s also because bad weather reduces the opportunity for crime in the first place. If people stay home during snowstorms, their cars can’t be stolen or broken into, nor their pockets picked, nor their houses burglarized. Changes in weather patterns can have odd effects on traffic-related incidents; the reduced danger inherent in driving without snow and ice on the roads is balanced by an increase in overall traffic.

The northeast had one of the mildest winters in recorded history in 2015–2016 (particularly compared to the year before).

Acknowledgements

The analysis in this report would not have been possible without the cooperation and good will of the police executives and personnel in the Plainville area. Each executive evinced a sincere commitment to objective analysis of data and unfettered cooperation in providing that data. We owe a debt of gratitude to Chief James Alfred and Officer William McEvoy of the Plainville Police Department; Chief Kyle Heagney, Sergeant Kevin Blackwell, and crime analysts Lisa Schultz and Anthony Stevens of the Attleboro Police Department; Chief Ronald Sellon and crime analyst Erika Baburins of the Mansfield Police Department; Chief John Reilly, Captain Joseph DiRenzo, dispatcher Julie Cannata, and assistant IT director Steve Almeida of the North Attleborough Police Department; Chief James Anderson, Lieutenant George Labonte, and IT administrator Darrell True of the Wrentham Police Department; and Lieutenant Brian Connors and Lieutenant Matthew Murphy of the Massachusetts State Police. I am also indebted to my research assistant, Dawn Reeby, who conducted much of the qualitative analysis necessary to explain the increases and decreases seen in this report.

About the author

Christopher W. Bruce is a career crime analyst with previous service at the Cambridge Police Department (1994–2001) and the Danvers Police Department (2001–2010). He was president of the Massachusetts Association of Crime Analysts from 2000 to 2004 and has served in three roles in the International Association of Crime Analysts: vice president of administration (2000–2006), president (2007–2012), and vice president of membership (2016–present). He has served as an instructor in criminal justice and crime analysis topics at Suffolk University (2001–2010), Westfield State University (2009–2010), the University of Massachusetts Lowell (2009–2010), Middlesex Community College (2007–2011), Tiffin University (2006–present), and Western Oregon University (2010–present).

Christopher is an internationally-recognized expert in police data systems and police data analysis. He currently consults with the U.S. Department of Justice, Bureau of Justice Assistance; the U.S. Department of Justice, Office of Justice Programs; the U.S. Department of Transportation, National Highway Traffic Safety Administration; and the International Association of Directors of Law Enforcement Standards and Training. He is the contracted analytical director for NHTSA’s Data-Driven Approaches to Crime and Traffic Safety (DDACTS) program, and a subject matter expert for BJA’s Smart Policing Initiative and its National Training and Technical Assistance Program.

Historical review

Until 1979, when the Seminole Tribe opened a high-stakes bingo hall on reservation land near Fort Lauderdale, Florida, the question of whether casinos impact crime and disorder in surrounding communities was largely moot. The only large-scale casino gambling in the United States was concentrated in Las Vegas, Reno, and Atlantic City—cities that had grown up (or, in the case of Atlantic City, re-organized) around the presence of casinos, and in which it would have been impossible to separate crime and disorder caused by gambling from that caused by general tourist activities.

In 1976, *Bryan v. Itasca County* (426 U.S. 373) established that the state does not have the right to regulate activities on Native American land in absence of a specific United States law allowing them to do so. The ruling thus established a legal foundation for organized gambling on reservations and tribal lands. Early attempts by Native Americans were met with police raids and prosecution, but a series of court rulings found in favor of the tribes and ended the debate. By the mid-1990s, more than three dozen Indian casinos dotted the United States, many of them quite close to urban areas and thus likely to impact surrounding communities.

Casinos proved so profitable for Native American communities that states and communities began to look to gaming for sources of tax revenue and general economic growth. In 1989, South Dakota became the first state outside Nevada and New Jersey to legalize gambling when they allowed a commercial slot casino in Deadwood. Iowa legalized riverboat gambling the same year. Colorado and Illinois followed in 1990; Missouri and Louisiana in 1991; Mississippi in 1992; and Indiana in 1993.³ As of the time of this writing, 18 U.S. states allow some form of commercial casino gambling.

With this growth has, of course, come concerns about the impact of casinos, both at the individual level (alcoholism, compulsive gambling, and mental health) and the societal level (community crime, traffic issues, and the non-gaming economy). These fears, though not unfounded, were exacerbated by historical ties between gambling and organized crime as well as general mores in the United States that historically regarded gambling as a “vice.” During the height of the Native American gaming debate, the president of the American Sheriffs Association said that gambling on Indian reservations would “open up new havens for organized crime in Indiana lands all over the country”; and an assistant U.S. Interior Secretary remarked that gambling is “known to be fraught with evil.”⁴ Concerns over crime increases have been raised in every state considering the establishment or expansion of casino gaming, all the way through the Massachusetts legislation of 2011 and the subsequent repeal referendums.

Not until the 1980s could these fears be confirmed or refuted with quasi-experimental studies and hard data. Among the first to study the relationship between casinos and urban crime was Niagara University researcher Jay Albanese. Using crime totals reported by the Atlantic City Police Department to the U.S. Federal Bureau of Investigation between 1978 and 1982, he found that although “index” crimes (murder, rape, robbery, aggravated assault, burglary, theft, and auto theft) increased significantly over the period, these increases disappeared when he controlled for population increases during the same period. While the growth of casinos had undoubtedly led to the population increases as well, on a *per capita* basis, crime did not significantly increase. “Based on this analysis of the Atlantic City experience,” he concluded, “the advent of casino gambling has no direct effect on serious crime.”⁵

³ For most of this summary, I am indebted to Fenich, G. G. (1996). A chronology of (legal) gaming in the U.S. *Gaming Research & Review Journal* 3(2): 65–78.

⁴ Indian gambling may attract organized crime, foes say. (1987, June 19). *The Spokane Chronicle*, p. 12.

⁵ Albanese, J. S. (1985). The effect of casino gambling on crime. *Federal Probation* 49(2): 39–44.

Studies since Albanese's have been mixed however, often even in the same study. For instance, a 2001 study by Ohio State University PhD candidate Jeremy M. Wilson found that after the passage of Indiana's riverboat gambling legislation, the considered crimes—including FBI index offenses, public intoxication, drunk driving, disorderly conduct, and prostitution—did not increase at all in one city (Hammond), but aggravated assaults and thefts increased in the area around another (Rising Sun).⁶

For every study indicating that casinos have caused an increase in crime in one area, an opposite study shows no increase in another.

Only as the body of literature has grown is it possible to discern key differences in the study areas. A "casino" is not the same thing across all geographies and demographics. There are variances in the types of casinos, size of casinos, types of gaming offered at casinos, other types of amenities and recreation offered at casinos, and the nature of the geography in which they are built, from dense, impoverished urban areas to the (literal) middle of the woods. Differences between the means of accessing the casinos, the surrounding road network, and the existing crime rate all have potential parts to play in any increases or decreases in crime and other social harms. As part of its efforts to investigate the impact of casinos on crime, disorder, and traffic issues, Massachusetts will offer several very different testing grounds, including a slots-only parlor directly off a highway in a moderate-to-low populated area of the state (the subject of the present study), a full-service casino in an urban area easily accessible by public transportation, and a full-service casino in a high-poverty, high-crime city. It is possible that each location will generate vastly different results. Acknowledgement of these complex variables came in a 2003 study by B. Grant Stitt, Mark Nichols, and David Giacopassi. Studying both Part 1 ("index") and Part 2 crimes across six casino communities and six non-casino communities, the researchers found widely varying results, from significant increases in casino communities to significant decreases. They ultimately conclude that "crime does not inevitably increase with the introduction of a casino" and "the effects of casinos on crime appear to be related to a variety of variables which are only poorly understood."⁷

Studies have also highlighted the danger of drawing conclusions too quickly. A landmark 2006 study by Earl L. Grinols and David B. Mustard, again using FBI part one crime statistics, this time comparing more than 3,000 casino and non-casino counties, found that the opening of casinos initially correlated with a decrease in crime, followed by a year of stability, followed by several years of increases. The findings suggest that the community—including the criminal community—takes time to adapt to the presence of the casino.⁸ This has implications for the Massachusetts project and suggests that repeated evaluations in subsequent years are necessary to truly assess the impact of casinos. No long-term conclusions should be drawn from a single-year study.

Throughout the history of casino-crime impact research, one major weakness has been the inability to analyze data beyond summary figures reported by police agencies annually to the FBI. Knowing that a community had 150 robberies in a given year tells us far less than having individual records of all 150 robberies, including time, location, victim, offender, and *modus operandi* factors. The former allows us to determine the presence of general increases and decreases; the latter allows us to identify *patterns* within the data. Researchers have generally failed to collect such incident-level data for three reasons: 1) the inability of many police agencies to extract the necessary data from their data systems; 2) the need to obtain cooperation from the agencies even if they had the ability; and 3) the difficulty involved in combining the data from multiple police agencies into a common format.

Perhaps the only study to have collected such specific data, allowing the researchers to look at individual crime locations instead of city- or county-level statistics, was conducted in 2014 by Lallen T. Johnson and Jerry H. Ratcliffe. Looking at crime incident data in the Fishtown neighborhood of Philadelphia 96 months after the opening

⁶ Wilson, J. M. (2001). Riverboat gambling and crime in Indiana: An empirical investigation. *Crime and delinquency* 47(4): 610–640.

⁷ Stitt, B. G., Nichols, M., & Giacopassi, D. (2003). Does the presence of casinos increase crime? An examination of casino and control communities. *Crime & Delinquency* 49(2): 253–284.

⁸ Grinols, E. L., & Mustard, D. B. (2006). Casinos, crime, and community costs. *The Review of Economics and Statistics* 88(1): 28–45.

of SugarHouse Casino, they found no effect on violent street crime, vehicle crime, drug crime, or residential burglary in the surrounding community—in fact, most of these crimes actually decreased, suggesting a possible diffusion of benefits from the extra police and security presence at the new facility. Vehicle crime in the neighborhoods surrounding Fishtown increased, however, suggesting a possible displacement effect.⁹ The researchers were able to collect such detailed information because they had a longstanding personal relationship and research partnership with the Philadelphia Police Department and a familiarity with its data systems. It is on this type of study that we have modeled the present project—at least in terms of data collection—pulling incident-level data on crimes and calls for service from the data systems of the contributing police departments, thus giving us the ability to answer far more questions than simply “how many.”

Another major deficiency in previous casino research is any establishment of the relationship between crime and casinos *as casinos* and not simply as large entertainment venues that draw thousands of visitors. In other words, even studies that show an increase in crime after the introduction of a casino do not necessarily establish that gambling itself is a factor in those increases. Routine activities theory suggests that any facility that draws people to an area—shopping centers movie theaters, hotels, restaurants and bars, spots complexes—creates more potential interactions between offenders and victims, both at the facility and in the surrounding area. A study showing that crime in a city or county increased after the introduction of a casino answers only one question; the other question is whether crime would have also increased if the city had built a minor-league sports stadium instead.

The aforementioned Grinols and Mustard study surveyed previous research and identified two mechanisms by which crime might decrease (pp. 31-32)—improved wages and improved physical development—and five mechanisms by which crime might increase: (1) suppression of other types of development, (2) the presence of large amounts of cash among both the business and the patrons, (3) compulsive gamblers committing illegal acts to finance gambling, (4) attraction of visitors likely to commit crime or become victims of crime (the “routine activities” argument above), and (5) changes in the underlying labor force. Of these factors, only #2 and #4 are specific to casinos, and only #4 is truly *unique* to casinos. (#2 is less of a factor in an age of electronic currency; the image of a successful gambler leaving a casino with \$30,000 cash in satchel is by now an outdated cliché.) Thus, demonstrating a causal relationship between crime and the gambling nature of casinos would have to focus on offenders themselves, identifying those of whom are compulsive gamblers, and assessing the extent of their criminality compared to the population at large. Such a study is possible in Massachusetts, but as Grinols and Mustard point out, it takes time for compulsive gambling to develop within a population, and thus to influence crime.

Finally, partly because of the inability of previous researchers to collect incident-level data from police agencies, previous studies have tended to focus solely on crime and not on any other police-related issues that affect communities, including traffic collisions and non-criminal disorder, suspicious activity, disputes, and other demands for police service. We were determined to study all such factors in the present project.

Thus, despite a fair amount of previous research into casinos’ effects on crime, we begin this project with something of a blank slate, owing to the fact that:

- Previous research has found wildly varying results, from significant decreases to no change to significant increases.
- By the admission of researchers who have studied the impact of casinos, whether crime increases or decreases is related to a large number of poorly-understood variables.
- Previous research has generally considered only serious crime, generally ignoring less-serious crime and non-crime issues.

⁹ Johnson, L. T., & Ratcliffe, J. H. (2014). A partial test of the impact of a casino on neighborhood crime. *Security Journal* advance online publication, 30 June 2014; doi:10.1057/sj.2014.28.

- Previous research has generally been based on annual summary statistics rather than incident-level data that considers a multitude of factor, including day, month, time, specific location, victim and offender factors, and property factors.
- Previous research has generally failed to establish a causal relationship between increases caused specifically by gambling versus those caused by any complex that draws large numbers of people.

This series of studies will not necessarily solve all of these problems, but it does have the advantage of being an ongoing series, considering multiple installations over multiple time periods, rather than a one-time study. Most important, it has the advantage of collecting incident-level data on both crime and non-crime issues, thus allowing for a far greater depth of analysis.

Incidents at Plainridge Park

Both the Massachusetts State Police and the Plainville Police Department respond to incidents occurring at Plainridge Park specifically, including the casino interior, exterior, parking lot, and street directly in front. (To further complicate matters, State Police responses are divided between the Gaming Enforcement Unit, which handles the bulk of the activity at the casino, and regular troopers from the local barracks.) Both agencies log incidents in their respective databases, and in many cases, these incidents overlap (e.g., both agencies respond and both take a report). A security department at Plainridge Park may handle minor incidents, in which case the activity would be reflected in neither database.

Therefore, only two statistical sets are offered below: one for Plainville Police and one for the Gaming Enforcement Unit at Plainridge Park. An analysis of the two datasets suggests that the *crimes* reported in the Plainville Police dataset are almost all duplicated in the Gaming Enforcement Unit statistics but the other *calls for service* in the Plainville Police dataset are not. The Plainville Police dataset is a better snapshot on what is happening in the parking areas and perimeter roads, while the Gaming Enforcement Unit data better depicts what is happening in the casino interior.

Incidents at Plainridge Park reported by the Gaming Enforcement Unit

The following statistics were compiled by the Gaming Enforcement Unit from July through November of 2015. These numbers should be considered the most authoritative of the sources for total figures at Plainridge Park; however, they might exclude some activity in the exterior reported to the Plainville Police. These numbers were supplied in summary form (statistics only) and are thus not subject to further analysis.

No distinction is made in this data between crimes and other incident types.

Crimes and other incidents, July 2015–June 2016

Crime Type	Jul-Sep 2015	Oct-Dec 2015	Jan-Mar 2016	Apr-Jun 2016	Total
Assistance to security	169	112	86	94	461
Assistance to other agency	97	85	80	55	317
Burglary	3	2			5
Forgery/counterfeiting	2	1	10	6	19
Fugitive from justice	1				1
Gambling violations			1		1
Identity theft	3	1			4
Theft, fraud, embezzlement	28	32	48	38	146
Missing persons	10	6			16
Drug investigations	17	20	20	20	77
Intoxicated persons	42	30	30	32	134
Suspicious persons	67	69	49	39	224
Medical	44	29	23	17	113
Total	483	387	347	301	1518

Trends seen among data supplied by the Gaming Enforcement Unit

The figures reported by the Gaming Enforcement Unit are commensurate with what we might expect at a large facility offering dining and entertainment services, serving alcohol, and maintaining large common areas and parking structures. And just like other such facilities, we can identify a few common trends and patterns within the Plainridge Park data. These include:

1. *Theft of gaming credits*, generally in the form of TITO tickets, committed by one patron against another. The offending patron snatches a ticket printed by the victim and cashes it in, often before the victim notices that it's gone. The GEU investigated several dozen such incidents in the first half of 2016 alone, and generally were able to identify and charge the perpetrator. Casino policy is to make restitution to the victims in such cases so the casino, rather than the patron, takes the loss.
2. *Theft of personal property*. A number of patrons report losing personal electronic devices, jackets, wallets, and other small items of personal property in the busy casino floor. Copious surveillance often makes identification of the offender possible.
3. *Drug use and distribution outside the casino*. The parking garages and lots have been sites for drug users to ingest cocaine, heroin, and marijuana in their vehicles, and at least three incidents involved individuals distributing drugs.
4. *Drunk, angry, obnoxious patrons on the casino floor*. The GEU recorded almost a dozen incidents of intoxicated patrons expressing anger, damaging casino property, or harassing employees.
5. *Intoxicated persons in the parking areas*. The GEU, casino security, and the Plainville Police occasionally have identified intoxicated individuals in the parking areas preparing to drive away from the casino. They are typically placed into protective custody until they regain sobriety. In a couple of instances, the individuals have ignored police and driven away, resulting in subsequent stops and arrests for drunk driving.
6. *Small children left alone in cars by gambling parents*. It's a small number—only 4 identified during the year—but enough to cause concern.
7. *Money laundering*. There were at least two reports of individuals from out of state bringing large amounts of small bills into the casino, feeding them into machines, obtaining TITO tickets, and cashing them out for larger-denomination bills. The specific nature of their criminal enterprises is unknown.

Incidents at Plainridge Park reported to the Plainville Police Department

Crimes, July 2015–June 2016

Crime Type	Jul-Sep 2015	Oct-Dec 2015	Jan-Mar 2016	Apr-Jun 2016	Total
Bad checks	1				1
Burglary	1	1			2
Credit card fraud				1	1
Drug offenses	5	2	3	2	12
Drunkenness	3		4	5	12
Other theft	2	1			3
Stolen property offenses	1	1	1		3
Theft from building	6	3	1	3	13
Trespassing	1	1		1	3

Crime Type	Jul-Sep 2015	Oct-Dec 2015	Jan-Mar 2016	Apr-Jun 2016	Total
Vandalism	1	1			2
Family offenses			1	2	3
Weapon offenses			1		1
All other			1		1
Total	21	10	12	14	57

Calls for service, July 2015–June 2016

Call Type	Jul-Sep 2015	Oct-Dec 2015	Jan-Mar 2016	Apr-Jun 2016	Total
Administrative	93	93	91	91	368
Animal complaint	2	1		1	4
Assist other agency	3	2	3		8
Crime enforcement	1	1		1	3
Disabled vehicle	9	2	2	2	15
Disorderly	5	4	5	2	16
Domestic dispute	1	2	1		4
Drugs		1	2	2	5
Fire	6	2	2	3	13
General service	11	8	8	8	35
Investigation		6	7	1	14
Lost property	2		1		3
Prisoner transport	2	4	3	1	10
Suspicious activity	41	33	28	20	122
Theft	10	6	2	8	26
Traffic collision	9	5	7	4	25
Traffic complaint	26	11	26	23	86
Traffic offenses	3	4	5	2	14
Trespassing	2	1		1	4
Vehicle stop	14	19	13	10	56
Warrant service	1		2	1	4
Well-being check				4	4
All other	5	3	4	2	14
Total	246	208	212	187	853

How much did Plainridge Park impact Plainville's statistics?

If we ask the question, “Did Plainridge Park cause an overall increase in crime and calls for service in Plainville,” the answer is yes, obviously—if we include incidents that happened at Plainridge Park itself. Without the casino, the incidents that happened *at* the casino would not have happened.

The next sections of this report attempt to estimate the impact of the casino on the *surrounding community*, but if we want to answer the literal impact of the casino itself, the calculation is fairly simple: the percentage of activity at Plainridge Park divided by the total activity in the town. At least, it would be that simple if the casino was a

brand-new complex, but the location has hosted a horse racing course since 1999, so we must subtract the average of the activity at that location pre-casino from the post-casino figures. The table below shows the results.

Plainville Activity, June 2015–July 2016

Category	Number at Casino	Total Plainville Number	Prior Yearly Average at Racetrack	% New Caused by Casino
Violent crime offenses	0	24	0	0%
Property crime offenses	25	223	3	+10%
Total crime offenses	57	360	5	+14%
Calls for service	853	8482	565	+3%

Thus, in an extremely literal sense, Plainridge Park is responsible for 10% more property crimes (22 total), 14% more total crimes (52 total), and 3% more calls for service (288 total) than the agency would have reported without the casino—not accounting for any surrounding community impact, which is analyzed in the next sections. The police department, it must be noted, received a 36% increase in sworn officers (14 to 19) to handle this increase in activity.

The casino became the Plainville Police Department’s top crime and call-for-service location in 2016, surpassing the Plainville Commons shopping Center at 91 Taunton Street. To put the figures above in context, we compare Plainville’s new top location to the top locations of its surrounding cities and towns, in terms of crime and call-for-service demand.

Percentage of activity at top locations, June 2015–July 2016

Community	Top Offense Location	% Violent Crimes	% Property Crimes	% Total Crimes	% Calls for Service
Plainville	Plainridge Park	0%	11%	16%	10%
Plainville #2	Plainville Commons	0%	13%	10%	2%
Attleboro	Bristol Place	1%	10%	7%	3%
Mansfield	Xfinity Center*	24%	5%	64%	<1%
North Attleborough	Emerald Square	6%	22%	16%	9%
Wrentham	Wrentham Village outlets	12%	59%	55%	22%

As such, the activity experienced by the Plainville Police Department at Plainridge Park is not significantly different—and even compares favorably—to top hot spots in other towns, including its own second most-visited location.

General crime statistics

The following figures note changes in the region and for individual agencies in the months of July–June of 2015–2016 compared to past years. These figures exclude activity specifically at Plainridge Park, as they are meant to help assess notable changes in the surrounding community.

As a reminder, the goal here is not simply to identify what crimes increased or decreased in comparison to their norms. Crimes fluctuate all the time for any number of reasons. Our goal is:

1. To determine which crimes increased *significantly enough* that some external factor—and not just random fluctuations in data—is likely to be responsible for those increases; and
2. To analyze those significant increases for evidence that Plainridge Park is that “external factor.”

The “Z” score is a figure that helps us determine if an increase is significant. It indicates where the figure stands in the 2015–2016 compared to its normal value, in the context of its normal deviation or variance. Scores higher than 1.75 or lower than -1.75 often indicate some outside factor at work. Notable increases, as well as some moderate increases, are analyzed after the statistics.

The figures below do not apply a “hierarchy rule”—all offenses reported in an incident are counted.

“All other” are typically motor vehicle offenses.

Years given in the column titles should be understood as the *ending* year. Thus, “2011” is actually July 1, 2010 through June 30, 2011, and so forth.

Crimes reported to Plainville, Attleboro, North Attleborough, Mansfield, and Wrentham

Crime Type	2011	2012	2013	2014	2015	Avg.	St. Dev.	2016	Z
Murder	2	2	2	0	1	1.4	0.80	0	-1.75
Sexual assault	52	58	48	42	41	48.2	6.34	57	+1.39
Robbery	38	33	38	25	18	30.4	7.81	20	-1.33
Aggravated assault	154	159	126	124	146	141.8	14.34	122	-1.38
Simple assault	528	472	475	487	573	507.0	38.59	595	+2.28
Kidnapping	9	8	8	1	2	5.6	3.38	10	+1.30
Violent crime	783	732	697	679	781	734.4	42.44	805	+1.64
Burglary	445	588	450	419	342	448.8	79.61	363	-1.08
Purse snatching	7	4	3	2	2	3.6	1.85	2	-0.86
Shoplifting	487	405	550	580	552	514.8	62.77	547	+0.51
Theft from building	203	260	204	208	171	209.2	28.66	171	-1.33
Theft from machine	3	0	0	2	0	1.0	1.26	2	+0.79
Theft from person	6	10	4	8	6	6.8	2.04	10	+1.57
Theft from vehicles	228	493	251	258	314	308.8	96.34	219	-0.93
Theft of veh. parts	57	48	49	71	51	55.2	8.49	63	+0.92
Other theft	814	936	911	1011	990	932.4	69.26	850	-1.19
Auto theft	104	114	107	99	83	101.4	10.40	73	-2.73
Arson	8	10	4	9	8	7.8	2.04	7	-0.39
Bad checks	32	26	30	19	21	25.6	5.00	22	-0.72

Crime Type	2011	2012	2013	2014	2015	Avg.	St. Dev.	2016	Z
Counterfeit/Forgery	66	83	92	78	73	78.4	8.82	84	+0.63
Credit card fraud	113	96	103	95	75	96.4	12.48	151	+4.37
Employee theft	32	37	29	22	18	27.6	6.83	19	-1.26
Fraud/Con Games	106	110	108	122	110	111.2	5.60	163	+9.25
Identity theft	38	57	69	67	128	71.8	30.17	122	+1.66
Stolen property off.	46	30	68	36	42	44.4	12.99	55	+0.82
Vandalism	534	560	498	437	421	490.0	53.80	455	-0.65
Property crime	3329	3867	3530	3543	3407	3535.2	183.92	3378	-0.85
Drugs	195	190	177	202	171	187.0	11.44	172	-1.31
Drunk driving	231	206	205	166	225	206.6	22.74	240	+1.47
Disorderly	317	288	292	322	262	296.2	21.69	287	-0.42
Drunkenness	452	530	599	443	629	530.6	75.12	406	-1.66
Family offenses	427	403	407	329	454	404.0	41.63	503	+2.38
Liquor laws	381	363	393	212	165	302.8	94.98	113	-2.00
Pornography	3	5	10	9	17	8.8	4.83	12	+0.66
Prostitution	1	0	3	1	1	1.2	0.98	3	+1.84
Threats	224	204	181	145	149	180.6	30.65	134	-1.52
Trespassing	46	71	73	57	74	64.2	10.98	57	-0.66
Weapon offenses	39	46	29	46	38	39.6	6.28	36	-0.57
All other	2287	2170	2321	2370	2099	2249.4	100.01	1816	-4.33
Total offenses*	6432	6920	6604	6165	6379	6500.0	252.47	6160	-1.35

*Does not include "all other."

Violent crime showed a general increase in the region during the 2015-2016 period, while property crime and total crime showed a general decrease. The following crimes showed significant increases for the region as a whole.

Simple assault

Simple assault describes attacks in which the offender does not use a deadly weapon and does not inflict serious injury. A shove, a punch, a kick, or a slap—all leaving no more than a bruise—all qualify. Anything that involves a weapon or that results in a broken bone or other serious injury would be classified as an aggravated assault.

Mansfield was the only agency to show a significant increase in simple assaults, though enough other agencies showed moderate increase that they contributed to the overall total. Plainville was the only agency to see a significant decrease.

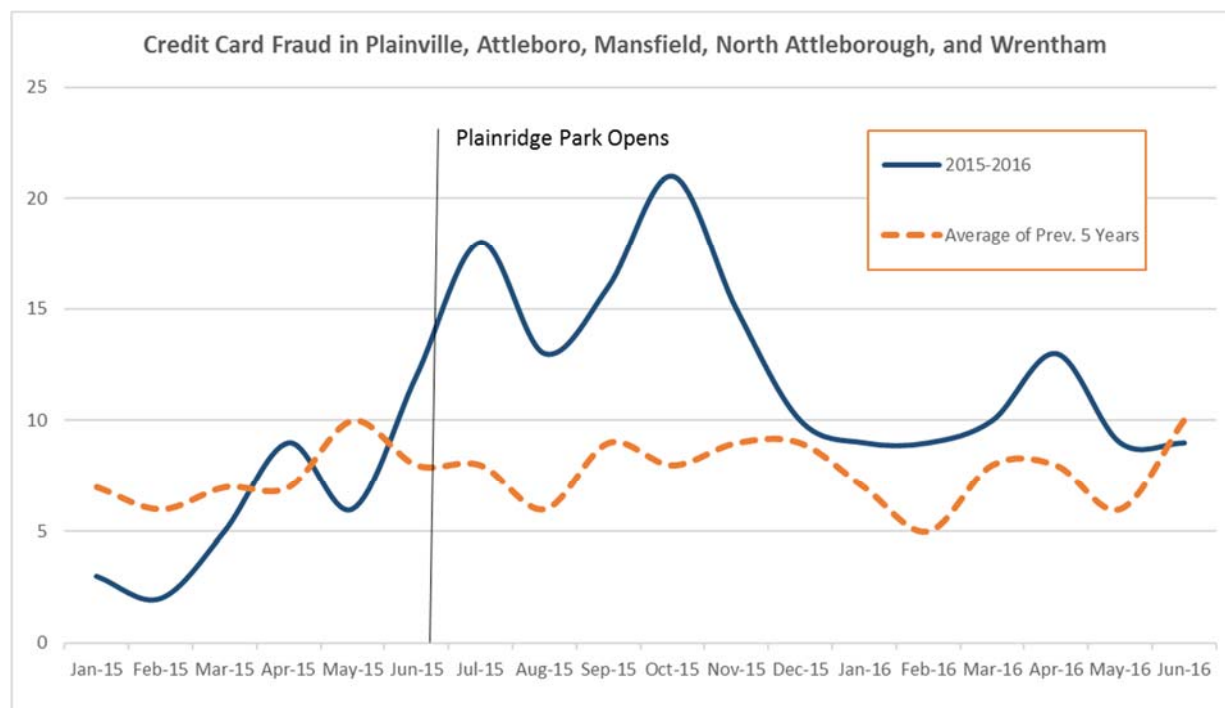
Assault can occur between people in intimate relationships, marriages, families, acquaintances, and strangers depending on the cause. As a reflection of overall violence, it typically tracks with aggravated assaults (those that *do* involve a deadly weapon or serious injury). In our case, the two agencies reporting the largest increase in simple assaults—Attleboro and Mansfield—reported corresponding *decreases* in aggravated assaults. Mansfield and Attleboro both hired new crime analysts during the study period and have taken steps to better classify their crimes; they were almost certainly over-reporting aggravated assaults in the past (it is very common, for a variety of reasons, for agencies to accidentally classify simple assaults as aggravated assaults), and have seen an increase in simple assaults largely as a result of applying correct classification standards.

There is no evidence to attribute the assault increase to Plainridge Park. The majority of events are happening in residences—suggesting domestic assaults—not in public places, nor in places that would serve visitors to the area, like restaurants and hotels. No keywords related to casinos or gambling appear in the narratives.

Credit card fraud

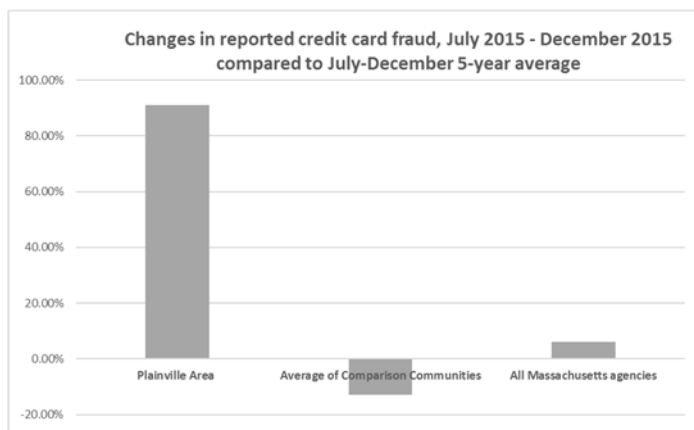
Credit card fraud is easily the most vexing increase seen in the Plainville area since the introduction of Plainridge Park. Significant increases were seen in Plainville, Attleboro, and Wrentham, and North Attleborough showed a modest increase. Only Mansfield decreased in this category. The overall region saw about 54 more incidents in the year following the opening of Plainridge Park than the average of the previous years.

At first, the casino relationship seems like an obvious one. Credit card fraud is an economically-motivated crime, so there is a logical connection to the presence of a facility where one might need extra cash. The increased began immediately as Plainridge Park opened and remained higher than average throughout the following year, only dipping below its average in the final month (June 2016).



We see significant increases in several of the agencies, so we cannot dismiss it as a coding fluke in one or two departments. More important, our later comparative analysis (which includes Foxborough data) shows that credit card fraud in the region increased 91% in the Plainville area (compared to an average of the previous 5 years) while simultaneously falling 13% in our comparison areas and increasing only 6% across Massachusetts as a whole.

Difficulties arise, however, when we start to analyze these events in more detail. To begin, it is important to understand that credit card fraud is not the theft of a credit card. That would be reported as a theft from a person, or car, or other location. An incident does not get coded as “credit card fraud” until the card is *used*, either in-person or online, to purchase goods or services. This event might happen some distance from the original theft—if there was a theft in the first place. A lot of online credit card fraud is committed with numbers hacked, stolen, or guessed.



There are significant issues with the way credit card fraud is reported, both in Massachusetts and across the U.S. Imagine, for instance, that a victim lives in City A. Her credit card is stolen from her car in City B and used to purchase gasoline in City C. Which city should take the report? Technically, City B should take a report for the original theft from a vehicle and City C should take a report for the use of the credit card at the gas station. In practice, it often doesn't work out that way. The victim feels like she should just have to make one report (which is sensible from her perspective, and she often goes to her home city (City A) to do it. Agency policies—even individual officer practices—vary considerably in such cases. Some agencies and officers will take the report even though it technically does not involve their city. Others will refer the victim to the “correct” cities. Sometimes, officers in City B or City C will (incorrectly) refer the victim back to her home city, or tell her to just work it out with the bank. Agencies with the highest totals for credit card fraud are often those that are the most accommodating when it comes to taking the reports in the first place.



Online fraud adds a complicated dimension to an already messy situation. Who should take the crime report when the use of the credit card occurred in cyberspace? The headquarters of the company? The location to which the product was shipped? These are issues that American law enforcement has yet to fully address.

These issues make it difficult to determine what's truly going on with a crime like credit card fraud. In the Plainville area, for instance, 25% of incidents, representing 23% of the increase, occurred at residences. Most likely, these were incidents of online fraud and the residence of the victims was used as a proxy for the unknown “location.” Almost all the incidents reported in Plainville itself were at residences. North Attleborough's number one hot spot for credit card fraud is the police department itself, again suggesting confusion about where to code a location.

The logical tie between a casino and credit card fraud also starts to wither under scrutiny. There are two ways that it would “make sense” for credit card fraud to increase following the introduction of a casino:

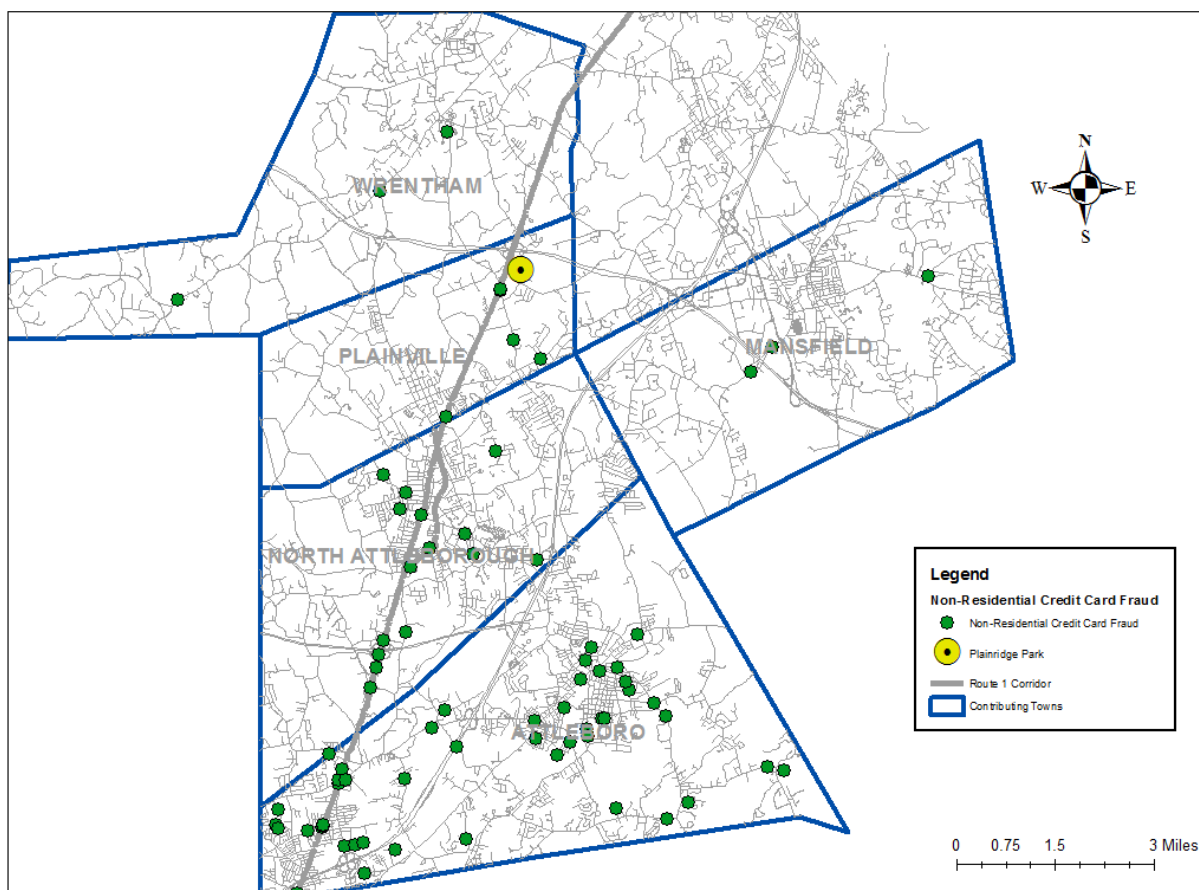
1. If offenders were using stolen credit cards to purchase merchandise, then selling that merchandise for cash to use for gambling.
2. If offenders were stealing credit cards at the casinos, then using them in the surrounding communities on their way out of the area.

(Cash advances can be rejected as a *modus operandi* for this type of crime. They require a PIN, and a credit card that allows cash advances in the first place, and thus almost never happen.)

The first option describes a fairly complex crime. It takes time to find a cash buyer for stolen merchandise, and Plainville is not a hot region for fences and pawn shops. If this was the explanation for the increase, we would not expect to see the crimes increasing in a geographic region directly around the casino, but rather the area of residence for the offenders. We would also expect to see a corresponding increase in the original thefts of the credit cards, which we do not see: burglaries and all theft types are decreased for the region.

The second option would be a possibility if offense reports showed a significant number of credit card thefts at Plainridge Park, but an analysis of data submitted by the Gaming Enforcement Unit as well as Plainville Police Department data for the facility shows only 4 incidents in which a credit card, wallet, or purse is specifically identified as the stolen property. Even if we assume a high degree of mis-coding or under-reporting, there are not enough thefts at Plainridge Park itself to account for the increase.

Nor does the spatial pattern suggest a relationship. When we exclude residences from consideration, most of the incidents are occurring in Attleboro center and South Attleboro, with just a few along the Route 1 corridor in North Attleborough. No single location has more than a few incidents. In other cities that show a lot of credit card theft, much of the fraud happens at gas stations near the original theft as the offenders quickly test the card—without having to interact with an employee—to make sure that it works. Only 3 uses in the Plainville area during the study period took place at gas stations despite at least 10 within an 8-mile radius of Plainridge Park.



There is some evidence of more involvement from offenders outside the local area. Prior to Plainridge Park, the average distance traveled for an offender to commit credit card fraud was 116 miles; after July 1, 2016, it is 149 miles. We see more offenders from Rhode Island and New York than in previous years. But an analysis of texts shows no specific mentions in any incident of Plainridge Park, “casino,” or “gambling.”

An analysis of the narrative data on credit card fraud shows the types of confusion discussed above when it comes to the reporting jurisdiction. Incidents break down roughly as follows:

1. 42% involve the use of credit cards lost or stolen elsewhere to purchase merchandise at stores in the Plainville area. Common items are liquor, food, cigarettes, and gift cards.
2. 31% involve the use of Plainville-area *residents'* credit cards, or credit card numbers, either online or at retail establishments in other states. Often, the resident still has the card and does not know how the offender (who is almost never identified) got the number.
3. 12% involve the use of a Plainville-area resident's ATM card to make withdrawals (often preceded by the deposit of a fraudulent check); again, the actual withdrawals often happen out of state.

4. 15% are miscellaneous incidents, often miscoded in the first place, among which no trends can be seen.

#2 and #3 almost certainly have no casino relationship, as the actual offense occurred far away from Plainridge Park, but there is one pattern within #1 that might suggest a casino motive: the use of stolen credit cards to purchase **gift cards** within the Plainville area. This sub-pattern accounts for less than 20% of all credit card fraud incidents—at least 28 of the incidents in the last year—but coupled with other factors, it might be enough to explain the increase.

There is no one hot spot for these gift card purchases, but they are occurring at department stores, drug stores, and fast food restaurants throughout the region. A valid, activated gift card is nearly as good as cash, and even a cursory investigation will show a robust online market for gift cards, usually at around 50% of the gift card's value.

If thieves were motivated to fraudulently purchase gift cards, sell them for cash online, and use the proceeds for gambling, we wouldn't expect the use of the credit cards to be concentrated around the casino. After all, there is a delay in online purchases, and it would be more convenient for the thieves to purchase the cards near their homes, or the original location of the credit card theft, rather than near the casino. We *would* expect the purchases to occur near the casino if, however, the thieves were selling them immediately, on the street. So far, we have no evidence of this from the Plainville area, but it is the most probable explanation for the pattern, and police agencies ought to be aware of any intelligence that suggests local "markets" for gift cards.

It is tempting to regard some of the other fraudulent credit card purchases in category #1 as casino-related as well. One could imagine visitors to Plainridge Park, having spent their money on gambling, relying on less legitimate means to obtain "sundries" like cigarettes, alcohol, and food. No police investigation or offender statement has identified such a relationship, however, and without better comparative data from previous years, it's premature to draw a conclusion. It is a possible explanation.

In summary, the increase in credit card fraud in the region is somewhat puzzling, but is likely explained by a combination of improved coding, a state and national increase in the crime, and one pattern of gift card purchases that may have a logical and spatial relationship to the casino.

Fraud/con games

This category includes a variety of con games and swindles. It increased notably in Attleboro, Mansfield, and North Attleborough, particularly in the first half of 2016.

We reviewed the narratives of the reports from these three agencies to look for patterns, trends, and any casino relationship. Our analysis shows:

- There is a clear trend of telephone scams at work in these communities, accounting for just over 30% of reported incidents. These cases involve offenders calling victims (often elderly) and impersonating distressed family members, IRS agents, credit bureau employees, or other officials. Through guile and trickery, they get the victim to turn over credit card or bank account information and subsequently use it to drain accounts, often out of the country. Such scams have been happening for years, and even if the offenders in such incidents were motivated by gambling, we would not expect the victims to be geographically clustered near the casino.
- Another complex trend was identified involving the use of online services like MoneyGram for purchases. The ruses might involve a "seller" who simply takes the victim's money, or a "buyer" who over-pays for something the victim is selling and asks the victim to send back the remainder, only to discover later that the original payment was fraudulent. Again, this is a national trend that would not show a geographic cluster near the casino even if motivated by gambling.

- In about 20% of cases, the agencies mis-used the “fraud” category and should have coded the incidents as employee theft, regular theft, of possession of a fake ID.
- Fraud is increasing statewide at the same pace as the overall study area.
- No incident narrative, which includes interviews with offenders and victims, mentioned Plainridge Park, gambling, or casinos as a motive or in any way involved in the incidents.

Thus, our conclusion is that the increase in fraud in several of the reporting agencies is a combination of improved coding, *over-coding*, and a couple of legitimate trends that are nonetheless non-casino related and in fact happening all over Massachusetts and the United States.

Family offenses

“Family offenses” is a miscellaneous category for non-violent but still unlawful acts by a family member or guardian. In practice, this category is usually used for violations of restraining orders or cases of child neglect. The increase is inconsistent across the five agencies. Plainville’s increase is due largely to small numbers in the first place, and North Attleborough’s (the agency never used this code before 2016) is due to improved coding. Attleboro’s is uncertain. Although gambling can put stresses on families, we would not expect to see the effects localized in small geographic areas.

Prostitution

In an area that typically reports almost no prostitution, even 3 can trigger a statistical threshold, and increases in prostitution and other “vice” crimes are often feared with the introduction of casino gambling to an area. In the case of this statistic, there appears to be no casino relationship. Two of the three incidents occurred at a motel in Wrentham in October 2015, and the Wrentham Police report that none of the participants were in the area to use the casino. The same seems to be true of the third incident, reported in Attleboro in January 2016.

Crimes reported to Plainville, July 1 – June 30

Crime Type	2011	2012	2013	2014	2015	Avg.	St. Dev.	2016	Z
Sexual assault	1	2	2	5	2	2.4	1.36	3	+0.44
Robbery	0	2	2	2	1	1.4	0.80	0	-1.14
Aggravated assault	6	6	5	2	4	4.6	1.50	7	+1.60
Simple assault	22	27	27	15	14	21.0	5.62	11	-1.78
Kidnapping	1	0	0	0	0	0.2	0.40	3	+7.00
Violent crime	30	37	36	24	21	29.6	6.34	24	-0.88
Burglary	32	20	34	31	29	29.2	4.87	22	-1.48
Shoplifting	16	26	29	33	27	26.2	5.64	27	+0.14
Theft from building	12	22	24	22	16	19.2	4.49	18	-0.27
Theft from vehicles	28	64	19	32	38	36.2	15.21	13	-1.53
Theft of veh. parts	5	6	3	4	4	4.4	1.02	4	-0.39
Other theft	20	37	31	16	13	23.4	9.13	13	-1.14
Auto theft	4	4	5	8	5	5.2	1.47	3	-1.50
Arson	1	0	0	0	0	0.2	0.40	0	-0.50
Bad checks	5	1	4	2	1	2.6	1.62	1	-0.98
Credit card fraud	14	15	9	13	16	13.4	2.42	22	+3.56
Employee theft	1	4	0	1	0	1.2	1.47	0	-0.82

Crime Type	2011	2012	2013	2014	2015	Avg.	St. Dev.	2016	Z
Forgery	5	4	7	11	4	6.2	2.64	6	-0.08
Fraud/con games	1	1	1	1	4	1.6	1.20	2	+0.33
Stolen property off	1	4	2	0	0	1.4	1.50	5	+2.41
Vandalism	36	47	33	38	25	35.8	7.14	54	+2.55
Property crime	185	255	201	215	187	208.6	25.59	198	-0.41
Drugs	8	13	11	7	9	9.6	2.15	12	+1.11
Drunk driving	18	20	18	12	20	17.6	2.94	21	+1.16
Disorderly	2	2	1	3	3	2.2	0.75	0	-2.94
Drunkenness	22	19	17	15	18	18.2	2.32	13	-2.25
Family offenses	0	0	3	4	3	2.0	1.67	5	+1.79
Liquor laws	4	2	6	1	2	3.0	1.79	2	-0.56
Threats	6	3	7	1	3	4.0	2.19	1	-1.37
Trespassing	6	11	4	5	1	5.4	3.26	4	-0.43
Weapon offenses	1	2	0	3	1	1.4	1.02	4	+2.55
All other	10	10	12	5	4	8.2	3.12	18	+3.14
Total offenses*	282	365	305	290	268	302.0	33.70	284	-0.53

*Does not count "All other" offenses.

The **kidnapping** increase may be alarming, but it's important to understand how the category is used. In the typical agency, stranger abductions—particularly of children—make up a tiny percentage of the overall value. More often, the category is used for "custodial" kidnappings (e.g., noncustodial parents who do not return children on time from visitations) or other incidents in which an offender confines a victim against his or her will, for instance a man who does not let his wife leave the house.

Plainville's increase from an average of nearly 0 to 3 trips the threshold alarms, but none of the incidents show a casino relationship. One was a serious domestic assault in which a boyfriend assaulted and bound his girlfriend after a dispute over money. Another was similar: a boyfriend physically blocking his girlfriend from leaving the apartment after a dispute. The third involved a bullying incident between teenagers. All of the offenders were from the town of Plainville and none had any connection with Plainridge Park.

The **vandalism** increase is significant but shows no Plainridge Park relationship. There is no logical connection between a casino and vandalism incidents; the region was down in vandalism as a whole, and the incidents do not seem to show any spatial relationship. 54% occurred at residences.

Weapons violations and **stolen property offenses** are statistical flukes involving low numbers to begin with. An analysis of the incidents shows no relationships. All incidents involved Plainville residents.

Credit card fraud and **family offenses** are analyzed above with the rest of the reporting communities.

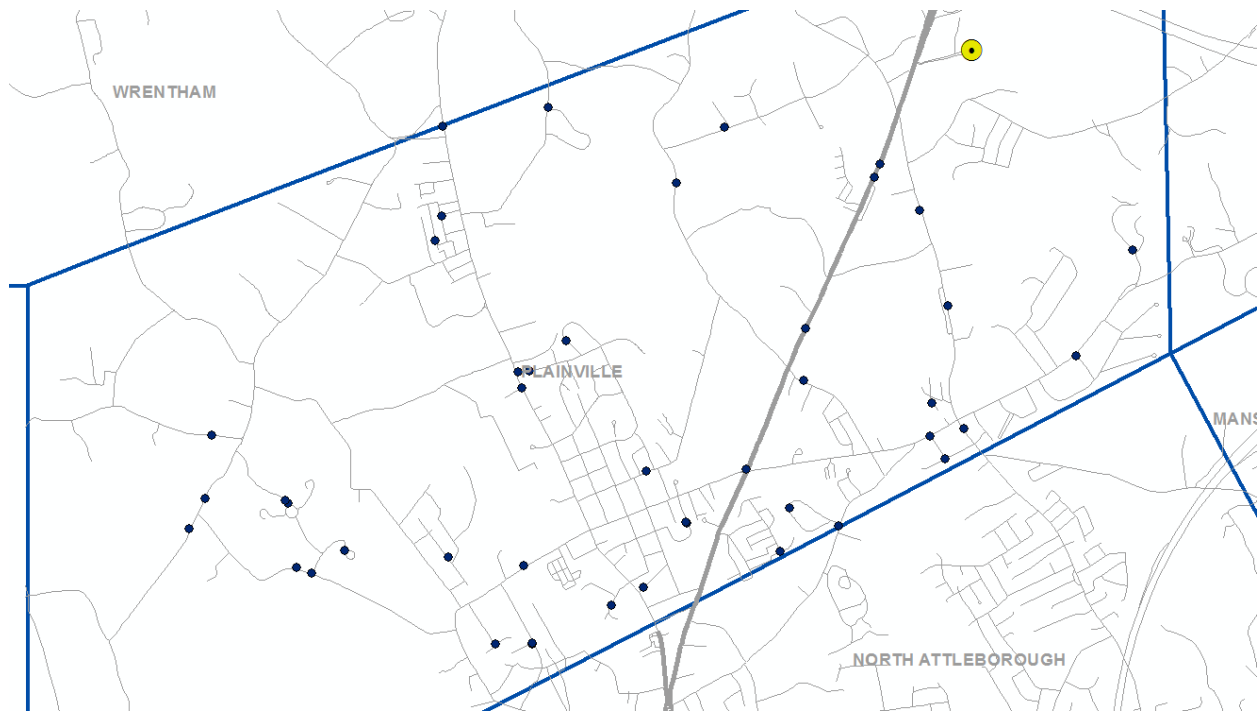


Figure 4: Vandalisms in Plainville between July 1 and June 30 do not show any spatial relationship to Plainridge Park.

Crimes reported to Attleboro, July 1 – June 30

Crime Type	2011	2012	2013	2014	2015	Avg.	St. Dev.	2016	Z
Murder	0	1	1	0	0	0.4	0.49	0	-0.82
Sexual assault	35	46	36	26	29	34.4	6.89	37	+0.38
Robbery	30	20	27	16	10	20.6	7.26	14	-0.91
Aggravated assault	105	115	78	78	66	88.4	18.45	63	-1.38
Simple assault	298	287	264	275	317	288.2	18.37	320	+1.73
Kidnapping	4	6	6	1	2	3.8	2.04	2	-0.88
Violent crime	472	475	412	396	424	435.8	32.05	436	+0.01
Burglary	222	284	187	193	154	208.0	43.71	185	-0.53
Shoplifting	191	131	207	249	202	196.0	37.99	207	+0.29
Theft from building	109	151	117	120	99	119.2	17.49	95	-1.38
Theft from machine	3	0	0	1	0	0.8	1.17	2	+1.03
Theft from persons	4	5	0	1	1	2.2	1.94	6	+1.96
Theft from vehicles	111	292	162	141	107	162.2	67.77	134	-0.42
Theft of veh. Parts	43	38	44	65	44	46.8	9.37	52	+0.56
Other theft	393	477	533	692	661	551.2	112.02	549	-0.02
Auto theft	62	73	69	59	47	62.0	8.99	42	-2.22
Arson	4	8	2	3	5	4.4	2.06	3	-0.68
Bad checks	12	14	18	8	10	12.4	3.44	9	-0.99
Credit card fraud	34	24	37	31	36	32.4	4.67	55	+4.84
Employee theft	8	10	7	7	10	8.4	1.36	6	-1.77
Forgery	38	43	48	35	30	38.8	6.24	38	-0.13
Fraud/con games	62	66	60	70	59	63.4	4.08	78	+3.58

Crime Type	2011	2012	2013	2014	2015	Avg.	St. Dev.	2016	Z
Identity theft	21	30	45	40	61	39.4	13.60	69	+2.18
Stolen property off	16	12	35	25	23	22.2	7.93	30	+0.98
Vandalism	316	346	312	283	241	299.6	35.45	241	-1.65
Property crime	1649	2004	1883	2023	1790	1869.8	139.12	1801	-0.49
Drugs	97	78	110	124	83	98.4	17.00	102	+0.21
Drunk driving	130	128	107	86	105	111.2	16.29	98	-0.81
Disorderly	254	207	201	216	159	207.4	30.43	182	-0.83
Drunkenness	1	1	0	0	0	0.4	0.49	0	-0.82
Family offenses	414	388	386	316	427	386.2	38.39	474	+2.29
Liquor laws	42	54	44	52	26	43.6	9.91	34	-0.97
Pornography	0	4	5	8	11	5.6	3.72	9	+0.91
Prostitution	1	0	0	0	1	0.4	0.49	1	+1.22
Threats	141	142	111	81	83	111.6	26.62	89	-0.85
Trespassing	21	30	32	30	32	29.0	4.10	37	+1.95
Weapon offenses	31	35	18	36	28	29.6	6.47	24	-0.87
All other	1062	942	1077	1097	1090	1053.6	5706	1187	+2.34
Total offenses*	3254	3546	3309	3368	3169	3329.2	126.68	3288	-0.33

*Does not include "All other."

Attleboro showed significant increases in credit card fraud, "con games," and family offenses, all of which are discussed among the general area analysis above. Improved coding may have something to do with those increases, and also increases in **identity theft**. These crimes are often coded as thefts by those who don't understand the definitions. An analysis of a sample of identity theft reports shows that the majority involve someone opening a credit card or utility account in Attleboro resident's name. Often, the offender turns out to be an acquaintance or family member of the victim. While it's not impossible that the offenders are using the proceeds from these activities for gambling, no offender has mentioned a gambling or casino motive (all reports were searched for key terms), nor would we expect such crimes to be geographically concentrated. Improvements in coding or a general non-casino-related trend seem more likely.

The increase in **thefts from persons** is mostly an issue with a small baseline. The handful of incidents occurred in retail centers and involved Attleboro suspects. No casino relationship could be seen in the crimes or the offenders. Similarly, the increase in **trespassing**, while notable, makes little sense as a casino-involved crime in the community furthest from the casino. It seems to be related, rather, to a handful of repeat incidents at a few locations.

Crimes reported to Mansfield, July 1 – June 30

Crime Type	2011	2012	2013	2014	2015	Avg.	St. Dev.	2016	Z
Murder	2	1	1	0	0	0.8	0.75	0	-1.07
Sexual assault	13	7	7	10	8	9.0	2.28	11	+0.88
Robbery	5	8	7	2	3	5.0	2.28	3	-0.88
Aggravated assault	40	37	36	38	42	38.6	2.15	31	-3.53
Simple assault	120	113	136	141	133	128.6	10.44	152	+2.24
Kidnapping	4	2	2	0	0	1.6	1.50	5	+2.27
Violent crime	184	168	189	191	186	183.6	8.16	202	+2.25
Burglary	140	236	175	119	81	150.2	52.62	55	-1.81
Purse snatching	2	1	1	0	2	1.2	0.75	1	-0.27

Crime Type	2011	2012	2013	2014	2015	Avg.	St. Dev.	2016	Z
Shoplifting	68	45	46	59	48	53.2	8.93	39	-1.59
Theft from building	65	81	58	56	47	61.4	11.36	49	-1.09
Theft from persons	1	3	1	3	2	2.0	0.89	3	+1.12
Theft from vehicles	1	1	1	0	0	0.6	0.49	1	+0.82
Theft of veh. Parts	0	0	2	0	0	0.4	0.80	1	+0.75
Other theft	171	190	150	133	129	154.6	23.09	95	-2.58
Auto theft	23	25	21	15	12	19.2	4.92	14	-1.06
Arson	3	2	2	4	1	2.4	1.02	3	+0.59
Bad checks	7	7	4	5	10	6.6	2.06	3	-1.75
Credit card fraud	24	33	21	21	14	22.6	6.15	19	-0.59
Employee theft	4	2	3	0	2	2.2	1.33	0	-1.66
Forgery	14	33	27	23	23	24.0	6.20	30	+0.97
Fraud/con games	42	43	45	45	41	43.2	1.60	68	+15.50
Identity theft	12	27	20	13	43	23.0	11.37	39	+1.41
Stolen property off	23	12	29	11	17	18.4	6.80	16	-0.35
Vandalism	127	144	131	100	108	122.0	15.94	83	-2.45
Property crime	727	885	737	607	580	707.2	108.73	519	-1.73
Drugs	67	86	46	63	58	64.0	13.07	33	-2.37
Drunk driving	54	44	59	55	45	51.4	5.89	54	+0.44
Disorderly	52	78	88	99	81	79.6	15.58	80	+0.03
Drunkenness	419	498	574	419	568	495.6	68.01	333	-2.39
Family offenses	13	15	18	7	20	14.6	4.50	4	-2.36
Liquor laws	332	304	339	159	137	254.2	87.78	71	-2.09
Pornography	3	0	5	1	5	2.8	2.04	2	-0.39
Prostitution	0	0	2	1	0	0.6	0.80	0	-0.75
Threats	55	55	60	59	49	55.6	3.88	33	-5.83
Trespassing	19	30	37	20	35	28.2	7.47	14	-1.90
Weapon offenses	7	9	11	7	7	8.2	1.60	6	-1.38
All other	1138	1156	1177	1247	980	1139.6	87.95	569	-6.49
Total offenses*	978	1139	972	861	824	954.8	110.16	754	-1.82

*Does not include "all other."

Mansfield had more significant decreases than most communities during this period, particularly in vice and disorder offenses. An exception was **kidnapping** which, as in the case of Plainville, comprised a miscellany of domestic incidents that show no casino involvement. Its increases in **simple assault** and **fraud** are covered in the area analysis above.

Crimes reported to North Attleborough, July 1 – June 30

Crime Type	2011	2012	2013	2014	2015	Avg.	St. Dev.	2016	Z
Sexual assault	3	3	1	0	1	1.6	1.20	5	+2.83
Robbery	3	1	2	5	3	2.8	1.33	2	-0.60
Aggravated assault	1	0	0	0	29	6.0	11.51	17	+0.96
Simple assault	87	45	47	38	92	61.8	22.87	101	+1.71

Crime Type	2011	2012	2013	2014	2015	Avg.	St. Dev.	2016	Z
Violent crime	94	49	50	43	125	72.2	32.08	125	+1.65
Burglary	32	37	27	40	56	38.4	9.85	81	+4.32
Purse snatching	4	3	2	2	0	2.2	1.33	0	-1.66
Shoplifting	176	191	226	185	184	192.4	17.47	194	+0.09
Theft from building	17	6	3	0	1	5.4	6.15	2	-0.55
Theft from machine	0	0	0	1	0	0.2	0.40	0	-0.50
Theft from persons	1	2	1	0	0	0.8	0.75	0	-1.07
Theft from vehicles	88	136	57	65	126	94.4	31.73	60	-1.08
Theft of veh. Parts	9	4	0	1	1	3.0	3.29	6	+0.91
Other theft	77	130	107	96	135	109.0	21.51	141	+1.49
Auto theft	14	9	8	8	15	10.8	3.06	10	-0.26
Arson	0	0	0	0	1	0.2	0.40	1	+2.00
Bad checks	8	4	4	4	0	4.0	2.53	8	+1.58
Credit card fraud	37	24	34	27	4	25.2	11.58	42	+1.45
Employee theft	19	21	14	9	1	12.8	7.22	9	-0.53
Forgery	7	3	8	5	8	6.2	1.94	9	+1.44
Fraud/con games	1	0	0	0	0	0.2	0.40	10	+24.50
Vandalism	29	7	3	0	37	15.2	14.92	67	+3.47
Property crime	519	577	494	443	569	520.4	49.51	640	+2.42
Drugs	15	7	3	1	13	7.8	5.46	15	+1.32
Drunk driving	23	6	12	9	43	18.6	13.48	63	+3.29
Disorderly	7	0	0	0	16	4.6	6.31	24	+3.07
Drunkenness	0	0	0	0	33	6.6	13.20	53	+3.52
Family offenses	0	0	0	0	0	0.0	0.00	19	NC
Liquor laws	1	2	0	0	0	0.6	0.80	6	+6.75
Pornography	0	0	0	0	0	0.0	0.00	1	NC
Threats	17	1	1	0	13	6.4	7.14	11	+0.64
Trespassing	0	0	0	0	4	0.8	1.60	2	+0.75
Weapon offenses	0	0	0	0	2	0.4	0.80	2	+2.00
All other	2	0	0	0	4	1.2	1.60	28	+16.75
Total offenses*	676	642	560	496	818	638.4	109.64	961	+2.94

*Does not include "all other" offenses.

To anyone simply looking at the statistics, North Attleborough had an unprecedented crime wave between July 2015 and June 2016, resulting in enormous increases in almost all categories. In fact, what happened was more banal. In September 2014, a new individual took over the position responsible for coding crimes for reporting to the state and, after some research and training, found that the agency's crime coding practices had not been following state or national standards. She instituted improved coding measures starting in January 2015, which of course affects the period of this report. Most of the crimes that show increases in July 2015–June 2016 period also showed increases during the first half of 2015, which would not be expected if the inciting factor behind the increase was Plainridge Park.

Because of the large number of increased crimes, we spent the most time with North Attleborough, studying individual incidents and reading report narratives to rule in or out a casino relationship.

Burglary was not affected by previous reporting practices and seems to reflect a real increase. The agency experienced two major burglary *series* in the second half of 2015 (a series involves multiple crimes connected to the same offender). Both serial offenders were heroin addicts from the local area, and there was no indication that they were committing the crimes for casino purposes. Nor was there any overt casino relationship in the other reports we reviewed. It should be noted that every other department in the study had decreases in burglary.

North Attleborough attributed the increases in **fraud, vandalism, trespassing, liquor laws, drunk driving and disorderly conduct** to a failure to correctly report these figures in previous years. Where other agencies did not report similar increases, the agency's explanation seems sensible and suggests no casino relationship despite the increase.

Crimes reported to Wrentham, July 1 – June 30

Crime Type	2011	2012	2013	2014	2015	Avg.	St. Dev.	2016	Z
Murder	0	0	0	0	1	0.2	0.40	0	-0.50
Sexual assault	0	0	2	1	1	0.8	0.75	1	+0.27
Robbery	0	2	0	0	1	0.6	0.80	1	+0.50
Aggravated assault	2	1	7	6	5	4.2	2.32	4	-0.09
Simple assault	1	0	1	18	17	7.4	8.26	11	+0.44
Violent crime	3	3	10	25	25	13.2	9.97	17	+0.38
Burglary	19	11	27	36	22	23.0	8.32	20	-0.36
Shoplifting	36	12	42	54	91	47.0	25.91	80	+1.27
Theft from building	0	0	2	10	8	4.0	4.20	7	+0.72
Theft from persons	0	0	2	4	3	1.8	1.60	1	-0.50
Theft from vehicles	0	0	12	20	43	15.0	15.92	11	-0.25
Theft of veh. parts	0	0	0	1	2	0.6	0.80	0	-0.75
Other theft	153	102	90	74	52	94.2	33.84	52	-1.25
Auto theft	1	3	4	9	4	4.2	2.64	4	-0.08
Arson	0	0	0	2	1	0.6	0.80	0	-0.75
Bad checks	0	0	0	0	0	0.0	0.00	1	NC
Credit card fraud	4	0	2	3	5	2.8	1.72	13	5.93
Employee theft	0	0	5	5	5	3.0	2.45	4	+0.41
Forgery	2	0	2	4	8	3.2	2.71	1	-0.81
Fraud	0	0	2	6	6	2.8	2.71	5	+0.81
Identity theft	1	0	4	11	19	7.0	7.13	6	-0.14
Stolen property off	6	2	1	0	2	2.2	2.04	3	+0.39
Vandalism	26	16	19	16	10	17.4	5.20	10	-1.42
Property crime	248	146	214	255	281	228.8	46.59	218	-0.23
Drugs	8	6	7	7	8	7.2	0.75	10	+3.74
Drunk driving	6	8	9	4	12	7.8	2.71	4	-1.40
Disorderly	2	1	2	4	3	2.4	1.02	1	-1.37
Drunkenness	10	12	8	9	10	9.8	1.33	7	-2.11
Prostitution	0	0	0	0	0	0.0	0.00	2	NC
Family offenses	0	0	0	2	4	1.2	1.60	1	-0.13
Liquor laws	2	1	4	0	0	1.4	1.50	0	-0.94
Pornography	0	1	0	0	1	0.4	0.49	0	-0.82

Crime Type	2011	2012	2013	2014	2015	Avg.	St. Dev.	2016	Z
Threats	5	3	2	4	1	3.0	1.41	0	-2.12
Trespassing	0	0	0	2	2	0.8	0.98	0	-0.82
All other	75	62	55	21	21	46.8	22.02	14	-1.49
Total offenses	284	181	256	312	347	276.0	56.26	260	-0.28

Wrentham only had significant increases in **credit card fraud**, **prostitution**, and **drugs**. The first two are covered at the top of this section in the analysis of all contributing agencies. A shoplifting increase during the second half of 2015 at the Premium Outlets tapered off during the first half of 2016.

Wrentham was the only agency to report a significant increase in **drug offenses**. It started with fairly low numbers. Two of the incidents took place at the same motel, and in the same events, as the October 2015 prostitution arrests described above, in which the offenders were local youths with no casino involvement. Most of the rest seemed to stem from motor vehicle stops, with no particular spatial relationship. It should also be noted that the significance of the increase is due to a highly predictable baseline—all previous years were 6-8 incidents—and thus is very small in terms of raw numbers.

Calls-for-service statistics

The same considerations and statistical interpretations discussed at the beginning of the previous section apply to the analysis of calls for service.

The calls for service analyzed below represent noncriminal activity that generally does *not* result in a full police report. As such, there is less data to analyze than with crimes; we are dependent largely on what dispatchers have entered while the incident was in progress. Nonetheless, an analysis of calls for service can give us a window on activity that would be invisible with an analysis of crime data alone.

Selected calls for service in Plainville, Attleboro, Mansfield, North Attleborough, and Wrentham

Call Type	2011	2012	2013	2014	2015	Avg.	St. Dev.	2016	Z
Alarm	4811	4973	4711	4893	4897	4857.0	89.20	4845	-0.13
Disabled Vehicle	1936	1515	1788	1854	2071	1734.0	184.85	1734	-0.53
Disorderly	3434	3627	3105	3069	3018	3250.6	238.16	2930	-1.35
General Service	4694	4909	4992	5433	5599	5125.4	337.53	5046	-0.24
Lost Property	124	116	112	126	181	131.8	25.13	174	+1.68
Medical	1666	1707	2184	1784	1732	1814.6	188.61	1856	+0.22
Psychological	290	346	357	382	381	351.2	33.59	452	+3.00
Suspicious Activity	5173	5997	6013	6149	5538	5774.0	364.52	6004	+0.63
Traffic Collision	4114	3780	3891	4099	4144	4005.6	143.98	4285	+1.94
Traffic Complaint	1621	1849	1509	1373	1562	1582.8	156.34	1780	+1.26

For the region as a whole, most calls for service were in their normal tolerances post-casino. The two exceptions shown above are in “psychological” calls for service and traffic collisions.

Psychological calls

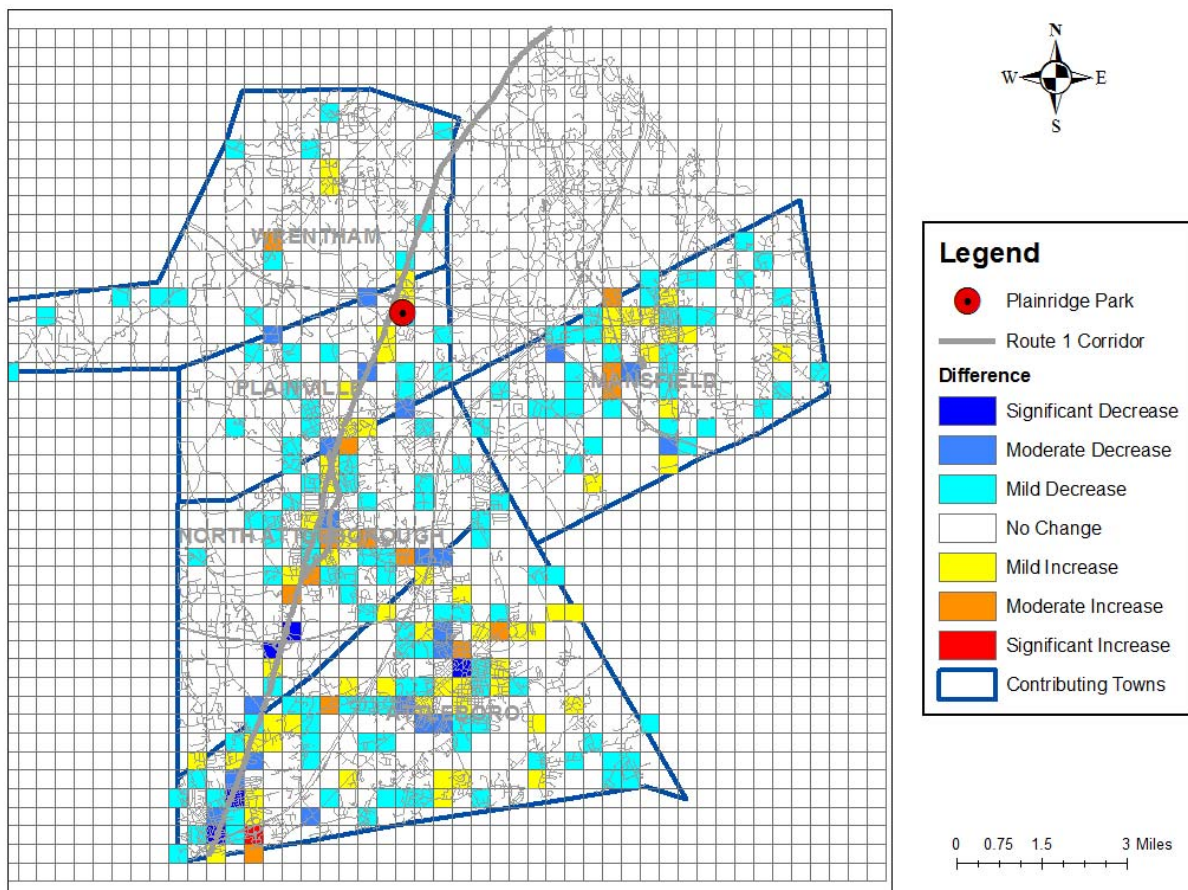
Calls in this category tend to be a mix of people who are suicidal, experiencing delusions or hallucinations, suffering breakdowns, elderly and going through dementia, or experiencing actual psychosis. The area increase is attributed to increases in 2 of the 5 agencies—Attleboro and Mansfield. (North Attleborough does not code this incident type.) Attleboro showed signs of a significant increase during the second half of 2016; Mansfield’s increase did not become apparent until the first half of 2016, when the department went from an average of 12.2 such calls to 28 for that six-month period.

Although the incident type increased significantly for those two agencies, and thus the area, further analysis suggests that the calls are unlikely to be related to the presence of Plainridge Park. First, there is no logical connection between such incidents and the presence of a casino. While issues associated with gambling might have a psychological effect on a portion of the community, it would be unlikely to manifest itself in such a small geography; we would expect it, rather, to be diffused over a much wider area (and thus detected by the research being performed at SEIGMA). Such incidents did not increase significantly in Plainville and Wrentham. Finally, a review of individual cases finds no mention of the words “gambling” or “casino” or similar keywords among the incidents. Changes in coding practices or other factors at work in Attleboro and Mansfield specifically are more likely.

Traffic Collisions

Traffic collisions were one offense type practically guaranteed to increase with the presence of a facility like Plainridge Park. Anything that draws more traffic to an area naturally tends to increase traffic-related incidents, including collisions, complaints, disabled vehicles, and requests to help people with lockouts and other vehicle-related problems. In the report covering the second half of 2015, we observed a mild increase in traffic collisions in the area—though not enough to trip the +1.75 threshold—and concluded that it was “likely” related to Plainridge Park.

Now that we have one year of data, the increase is stronger and yet the relationship is less certain. Of particular interest is the spatial distribution of the collisions. The map below shows colored grid cells indicating the traffic collision volume in July 1, 2015–June 30, 2016 compared to the average of the previous 5 years.



The map shows some mild increases along the Route 1 corridor just adjacent to Plainridge Park, which are almost certainly caused by the presence of the facility. But those squares alone account for an increase of only about 22 collisions, and it must be noted that Plainville overall saw a decrease during this period. Wrentham also had a slight increase right at the Plainville border, and North Attleborough likewise saw some changes at key intersections on the Route 1 corridor.

Generally speaking, however, the biggest increases in traffic collisions came from places where it makes less spatial sense to attribute them to Plainridge Park. Attleboro’s major increase, for instance, accounting for more than 80 new collisions (enough to represent the totality of the significant part of its increase), is at a single intersection

where Newport Avenue meets I-95, just north of the Rhode Island border. While this could conceivably represent increased traffic flow coming from Rhode Island to Plainridge Park, one would expect to see this represented in further increases along the route to Plainridge Park through Attleboro, and in fact the results are mixed. Wrentham's largest increases are in a couple of downtown squares and the exit from the Wrentham Village Premium Outlets onto South Street; in both cases, the configurations would seem to have little to do with Plainridge Park.

When detailed traffic collision data is available from the Commonwealth in 2017—including data from control areas—we will be able to better analyze the contributions of Plainridge Park to both traffic flow and traffic collisions. For now, it seems likely that the facility had a mild impact on collisions in its immediate area but is not solely responsible for the bulk of the increase that we see in the surrounding communities.

Selected calls for service in Plainville

Call Type	2011	2012	2013	2014	2015	Avg.	St. Dev.	2016	Z
Alarm	350	376	366	429	467	397.6	43.67	456	1.34
Disabled Vehicle	120	91	125	176	159	134.2	30.05	148	0.46
Disorderly	167	140	158	169	181	163.0	13.64	174	0.81
General Service	484	330	308	325	403	370.0	65.66	436	1.01
Lost Property	25	35	41	40	43	36.8	6.46	58	+3.28
Medical	12	15	10	5	6	9.6	3.72	2	-2.04
Psychological	31	29	24	27	36	29.4	4.03	30	0.15
Suspicious Activity	566	605	596	610	648	605.0	26.37	785	+6.83
Traffic Collision	308	285	295	321	351	312.0	22.96	309	-0.13
Traffic Complaint	218	208	212	242	294	234.8	31.86	311	+2.39

Plainville had the most increases in calls for service among the five agencies, which makes sense as the host community. Moreover, the types of calls for service that increased are precisely the types that one would expect given an increased number of people and vehicles in town, including complaints of erratic drivers and improper parking, reports of suspicious vehicles and people, and reports of lost property. 38% of suspicious activity reports and 54% of traffic complaints occurred on Washington Street, which hosts the casino, in all cases more than double the volume and percentages of the previous year.

Selected calls for service in Attleboro

Crime Type	2011	2012	2013	2014	2015	Avg.	St. Dev.	2016	Z
Alarm	1465	1752	1513	1509	1390	1525.8	121.45	1400	-1.04
Disabled Vehicle	592	495	597	635	715	606.8	71.16	539	-0.95
Disorderly	1918	2039	1643	1599	1553	1750.4	192.25	1525	-1.17
General Service	2112	2317	2466	2748	1976	2323.8	270.57	1389	-3.45
Lost Property	66	54	46	52	90	61.6	15.62	71	0.60
Medical	527	650	1439	979	907	900.4	315.73	1075	0.55
Psychological	243	290	292	327	324	295.2	30.34	377	+2.70
Suspicious Activity	2549	3050	3046	3205	2307	2831.4	342.98	2484	-1.01
Traffic Collision	1860	1747	1715	1777	1876	1795.0	62.95	1921	+2.00
Traffic Complaint	688	906	587	367	412	592.0	195.38	557	-0.18

Attleboro's major increases are both covered in the area analysis above: psychological calls and increased traffic collisions.

Selected calls for service in Mansfield

Call Type	2011	2012	2013	2014	2015	Avg.	St. Dev.	2016	Z
Alarm	954	921	1001	999	1028	980.6	38.11	1006	+0.67
Disabled Vehicle	444	337	368	391	421	392.2	37.81	325	-1.78
Disorderly	438	464	450	489	489	466.0	20.50	500	+1.66
General Service	1372	1431	1414	1455	1213	1377.0	86.36	1145	-2.69
Medical	10	18	10	15	13	13.2	3.06	14	+0.26
Psychological	12	22	38	28	20	24.0	8.67	43	+2.19
Suspicious Activity	747	909	882	829	843	842.0	55.29	974	+2.39
Traffic Collision	724	617	645	697	689	674.4	38.32	727	+1.37
Traffic Complaint	137	167	158	163	217	168.4	26.41	230	+2.33

Mansfield was one of many agencies to see a general increase in **traffic complaints**, reported mostly as “improper operation” by the agency’s CAD system. (These reflect calls from citizens of improper operation, not traffic stops by the police.) A study of the incidents and locations shows hot spots in residential areas and around Mansfield Crossing. Mansfield’s crime analyst looked at the listed incidents in 2015 and could find nothing tying them to the casino. However, the incidents did not start to increase until July of 2015 (they were average from January to June), and several other agencies in the area reported a general increase, so the category is worth continued study.

Suspicious activity calls for Mansfield were slightly down in the last half of 2015, so all of the increase that we see above is from the first half of 2016. Most of the increase seems to involve a small number of locations at which Mansfield normally reports high “suspicious activity” numbers, just at higher overall volume. These locations include Mansfield Crossing, a retail complex on Chauncy Street, a retail complex on West Street, and Fulton Pond.

Selected calls for service in North Attleborough

Call Type	2011	2012	2013	2014	2015	Avg.	St. Dev.	2016	Z
Alarm	1168	1256	1205	1288	1288	1241.0	47.47	1213	-0.59
Disabled Vehicle	575	392	400	378	439	436.8	72.00	356	-1.12
Disorderly	738	800	679	689	635	708.2	56.38	559	-2.65
General Service	633	673	593	696	1803	879.6	463.04	1924	+2.26
Medical	321	412	322	320	343	343.6	35.25	208	-3.85
Suspicious Activity	915	1081	1065	1090	1308	1091.8	125.57	1237	+1.16
Traffic Collision	1027	937	1000	1084	1042	1018.0	48.78	1065	+0.96
Traffic Complaint	469	452	469	488	511	477.8	20.13	572	+4.68

North Attleborough was one of many departments to see an increase in **traffic complaints**, a mixture of erratic operator calls and complaints of parking violations. Although the available data shows no specific casino relationship, the limited nature of CAD data collected for such incidents leaves several possibilities open, including the possibility that an overall increase in traffic through town has led to more complaints of dangerous, erratic, or other troublesome drivers. A map of incidents supports this possibility, indicating most incidents concentrate on Route 1, which would serve as the city’s major travel route to and from Plainridge Park.

Almost all of the increase in **general service** calls involves participation in community car washes at 348 East Washington Street and thus shows no casino relationship.

Selected calls for service in Wrentham

Call Type	2011	2012	2013	2014	2015	Avg.	St. Dev.	2016	Z
Alarm	874	668	626	668	724	712.0	86.78	770	+0.67
Disabled Vehicle	205	200	298	274	337	262.8	53.21	366	+1.94
Disorderly	173	184	175	123	160	163.0	21.42	172	+0.42
General Service	93	158	211	209	204	175.0	45.40	152	-0.51
Lost Property	33	27	25	34	48	33.4	8.06	45	+1.44
Medical	796	612	403	465	463	547.8	141.94	557	+0.06
Psychological	4	5	3	0	1	2.6	1.85	2	-0.32
Suspicious Activity	396	352	424	415	432	403.8	28.54	524	+4.21
Traffic Collisions	195	194	236	220	186	206.2	18.77	263	+3.03
Traffic Complaint	109	116	83	113	128	109.8	14.82	110	+0.01

Wrentham joins Plainville and Mansfield in a higher number of **suspicious activity** calls, but in its case, almost all the activity can be tied to two locations: the Wrentham Village Premium Outlets and a residential complex on South Street. The latter location had never received any such calls in previous years, so it is uncertain what caused a spate of more than 20 during the study period.

As discussed above, Wrentham's major **traffic collision** increases have not occurred in a geographic manner consistent with Plainridge Park, except for a mild increase on Route 1 near the Plainville border. Similarly, its increase in **disabled vehicle** calls, which otherwise might suggest a Plainridge Park relationship, seems to be centered instead at the Premium outlet mall, suggesting that increased activity at this retail center is having a greater effect on calls for service than Plainridge Park.

State police statistics

The Massachusetts State Police cover the highways, state roads, and state property throughout Massachusetts, including the Plainville area. As such, they often respond to crimes and calls for service that are not recorded in the databases of the local communities. Analyzing state police data is thus important in determining whether overall social harms increased in the Plainville area following the introduction of the casino.

Unfortunately, the State Police also have the most troublesome dataset of the agencies, lacking enough historical data to establish a valid baseline average, and showing several inconsistencies in coding.

As with Plainville, the numbers below exclude activity at 301 Washington Street (Plainridge Park) specifically, as they are covered in an earlier section. The purpose of this analysis is to help determine if activity has increase in areas *around* Plainridge Park.

Crimes, July–June reported to the MSP in Plainville, Attleboro, Foxborough, Mansfield, North Attleborough, and Wrentham

Crime Type	Jul 2013-Jun 2014	Jul 2014-Jun 2015	Jul 2015-Jun 2016
Aggravated assault	2	1	3
Simple assault	13	7	9
Threats	3	2	0
Burglary	1	0	0
Theft from a building	0	1	0
Other theft	5	0	2
Auto theft	1	0	0
Counterfeiting/Forgery	1	1	4
Stolen property	2	2	3
Vandalism	4	2	0
Drug offenses	23	28	12
Drunk driving	29	43	30
Disorderly conduct	13	12	10
Liquor laws	19	19	8
Trespassing	3	1	1
Weapon offenses	1	1	2
Motor vehicle offenses	447	327	318
All other offenses	219	157	164
Total	838	636	601

The overall number of crimes reported to the State Police in the communities surrounding Plainridge Park decreased during the post-casino period compared to the previous years. Only a couple of crimes were higher in 2016 than in both previous years, and only one crime—counterfeiting and forgery—was higher by more than a single case.

Forgery is not normally a crime that the State Police deal with (in most cases, it would be reported to the local police agency). All four of the incidents in the chart above occurred during the first 5 months of 2016, one at a Foxborough motel, one at a Plainville grocery store, and two from motor vehicle stops on Route 95. No connections could be observed among them, and where none of the surrounding agencies reported significant increases in counterfeiting or forgery, a Plainridge Park relationship seems unlikely.

Non-crime incidents, July–June MSP in Plainville, Attleboro, Foxborough, Mansfield, North Attleborough, and Wrentham

Crime Type	Jul 2013-Jun 2014	Jul 2014-Jun 2015	Jul 2015-Jun 2016
Abandoned vehicle	10	6	4
Administrative	14	6	5
Alarm	1	3	4
Animal complaint	55	39	46
Assist other agency	144	101	96
Building check	104	411	991
Crime enforcement	156	188	281
Death investigation	43	45	57
Disabled vehicle	1176	1102	917
Disorderly	75	46	58
Domestic dispute	15	11	6
Fire	97	78	69
General service	39	23	19
Investigation	100	68	71
Lost property	9	2	1
Medical	65	59	55
Missing person	5	4	8
Recovered stolen vehicle	8	6	6
Road conditions	283	226	220
Suspicious activity	63	39	34
Traffic complaint	222	158	137
Traffic enforcement	60	31	20
Vehicle stop	564	431	447
Warrant service	9	7	5
Well-being check	4	6	11
All other	84	55	91
Total calls for service ¹⁰	3590	3282	3819
Total reactive calls for service ¹¹	2548	2110	1921

State Police calls for service data shows decreases in most *reactive* calls for service (those prompted by citizen complaints or events on the highways) but significant increases in several *proactive* calls for service. In particular, the State Police seem to have stepped up their proactive checks of buildings and rest areas (or, at least, the recording of those activities) during the post-casino period.

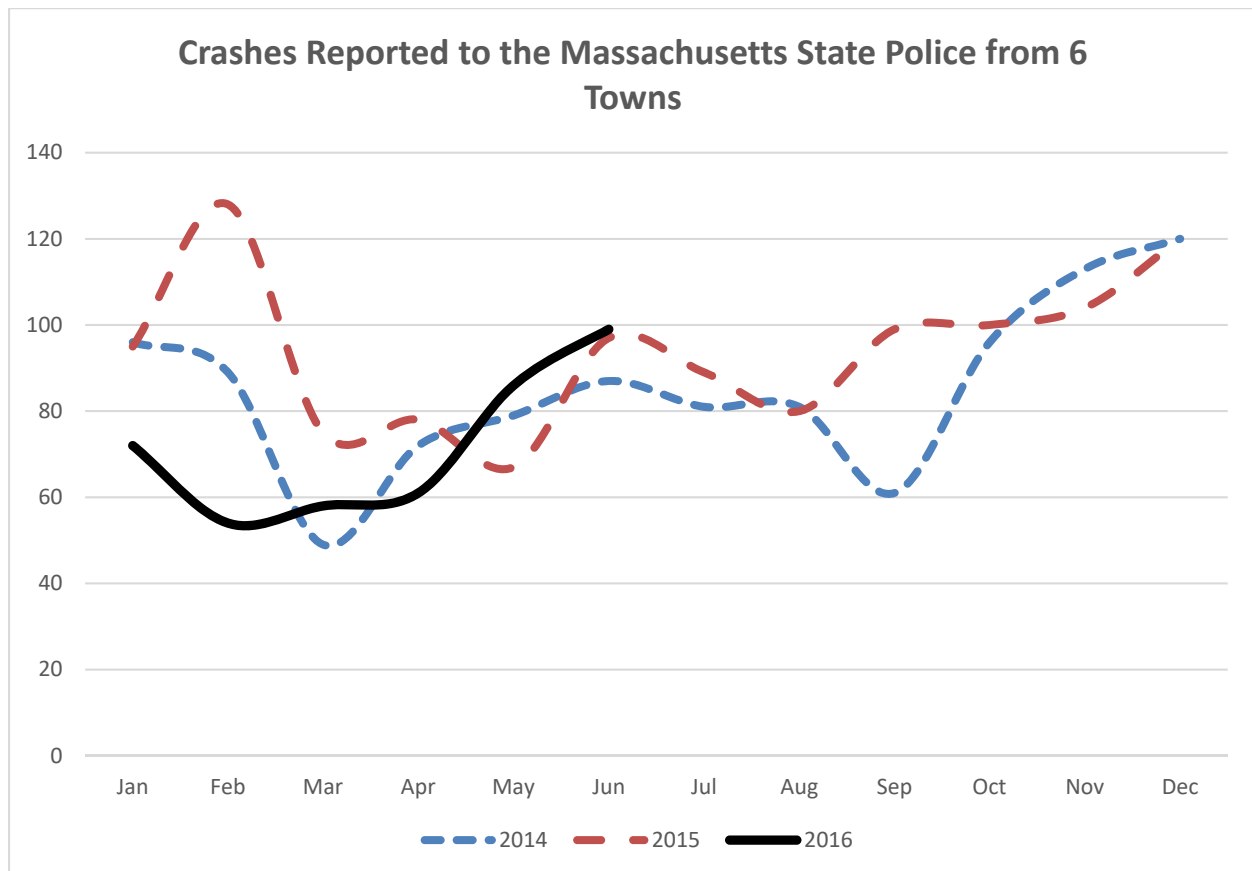
Call types that we would have expected to increase due to increased traffic—traffic complaints, and disabled vehicles, suspicious activity—were all lower than previous years, suggesting that the area highways absorbed the new traffic to Plainridge Park without much problem. Even traffic collisions, which had showed a slight increase after the first six months (July–December 2015) turned around in the first half of 2016 and ended the year on par with the previous two.

¹⁰ Total calls for service includes some activities previously covered in the “crimes” section and thus is higher than the sum of the selected call-for-service categories listed here.

¹¹ This total makes up the call types that are almost all citizen-generated, excluding traffic enforcement, crime enforcement, building checks, investigations, and vehicle stops.

Traffic collisions reported to the MSP, July-June, by Town

Town	2014	2015	2016
Plainville	51	59	44
Attleboro	246	241	254
Foxborough	26	320	289
Mansfield	215	201	190
North Attleborough	130	154	134
Wrentham	111	117	111
Total	1014	1092	1022



In the 6-month evaluation released in the spring of 2016, it seemed that traffic collisions were increasing slightly in the region—the line above for 2015 shows slightly above-average activity in June, July, and September, following the opening of Plainridge Park. But any increases were balance by far lower-than-normal totals in the first four months of 2016, likely owing to far better weather than the previous years. Our conclusion at this point is that if Plainridge Park is causing any variances in traffic collisions, owing to greater traffic on state highways coming to the casino, the effect is extremely subtle and easily overwhelmed by other factors.

A full crash analysis must await the availability of a complete dataset for both state and local roads in 2017.

Comparison to changes in other communities

The previous sections of this report have asked, “Did crime and other police-related incidents change significantly in the Plainville area compared to the past?” This section asks, “Did crime change significantly in the Plainville area *in comparison to other communities?*”

To answer this question, we must use a slightly different dataset than the ones used in the previous section, in which we extracted data directly from the records management systems of the Plainville-area communities. For this part of the study, we used crime data as submitted to the Massachusetts Incident-Based Reporting (IBR) system.

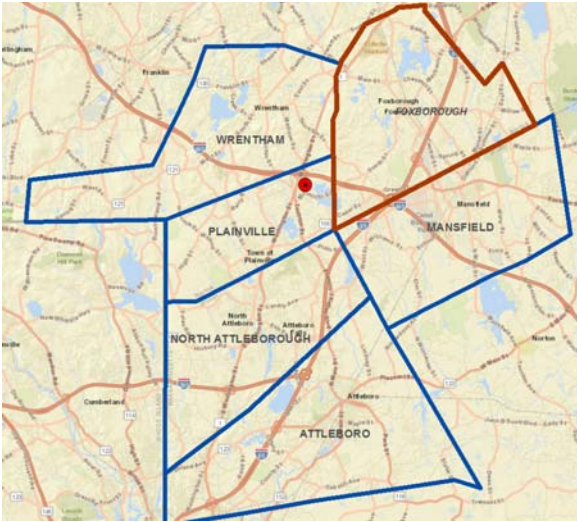
The advantages to this type of analysis are that we get to include the communities we want—including Foxborough—and that by comparing the “study” communities to other communities, we can better measure the impact of a new variable like Plainridge Park. This type of study, using control areas, is generally required by serious quantitative researchers to reach a conclusion. Among other things, the before-and-after analysis in the preceding sections assumes that if Plainridge Park impacted the surrounding communities, that impact would be reflected in *increases* in crime. In fact, if crime was already decreasing in those communities for other reasons, the impact of the casino might be seen in *lesser decreases* rather than increases, something that a comparative analysis should be able to tell us.

This data has some regrettable limitations. Due to delays in reporting from both the Plainville-area and comparison-area communities, this analysis **covers only the last six months of 2015**. A study that looks at the full year post-casino will likely have to wait until the first quarter of 2017 or later. The second limitation is that only crime, not other calls for service, are reported to the state IBR program. Third, because we received the data in summary form (totals only), we cannot specifically exclude incidents at Plainridge Park itself, nor can we perform more detailed analysis of the data beyond crime category and time period.

To conduct this analysis, we first identified three comparison areas of roughly similar population, square mileage, and crime total. We looked for areas near highways with strong retail corridors to best match the geographic, traffic, and economic profile of the Plainville-area communities. The table below identifies the three comparison areas and shows their comparative statistics.

Area	Communities	Population (2010)	Square Miles	2014 IBR Total
Study	Plainville, Attleboro, Foxborough, Mansfield, North Attleborough, Wrentham	131,401	122.9	3,924
Comparison 1	Berlin, Hudson, Marlborough, Northborough, Shrewsbury, Southborough, Westborough	139,230	124.9	3,519
Comparison 2	Canton, Dedham, Norwood, Randolph, Westwood	121,622	62.4	3,953
Comparison 3	Bedford, Concord, Lexington, Lincoln, Waltham, Weston	140,638	102.2	2,910

We also compare the study area to the totality of Massachusetts agencies reporting to the IBR program. This list includes 303 city and town police departments and 16 college, university, and institutional police departments but excludes Boston, the State Police, and 47 other communities (almost all very small) that do not report to the IBR standard or do not have their own police agencies.



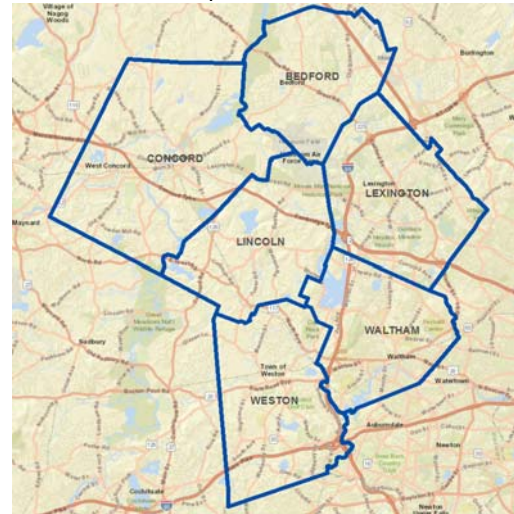
Study Area



Comparison Area 1



Comparison Area 2



Comparison Area 3

The table below compares the percentage changes observed in these various groups of communities in the second half of 2015 (July–December) when compared to an average of the same time period over the five previous years.

Changes in crime in study areas and comparison areas, July-December 2015 vs. average of previous 5 years

Measure	Study Area	Comparison 1	Comparison 2	Comparison 3	All Comparisons	All Massachusetts
All Violent Crime	-5.5%	-14.9%	+6.8%	-17.0%	-8.0%	-7.0%
All Property Crime	-9.8%	-13.2%	-12.7%	-25.9%	-16.6%	-15.6%
Robbery	-59.8%	-15.1%	-35.0%	-46.4%	-34.6%	-19.8%
Burglary	-13.5%	-40.0%	-20.2%	-29.7%	-29.9%	-32.4%
Auto Theft	-46.5%	-18.4%	+11.1%	-11.1%	-3.6%	-10.3%
Counterfeiting/Forgery	-26.1%	-17.9%	-5.2%	+54.8%	+3.3%	-11.7%
Credit Card Fraud	+91.2%	+16.1%	-15.3%	-53.6%	-13.0%	+6.1%
Fraud/Con Games	+2.2%	+16.9%	+14.1%	+32.9%	+21.4%	+5.1%
Identity Theft	+38.9%	+96.2%	+77.6%	+187.2%	+100.6%	+25.1%
All Fraud/Forgery Offenses	+21.8%	+22.9%	+1.7%	+31.5%	+14.4%	+3.0%
Theft from a Vehicle	-28.1%	-25.0%	-15.5%	-62.8%	-34.3%	-25.4%
Drug Offenses	-22.9%	-32.1%	-12.6%	-30.7%	-21.9%	-5.3%

The results offer an interesting mix. Except for violent crime in comparison area #2, total crime decreased in all areas, but *decreased less* in the Plainville area. For violent crime, which is extremely low in the first place in the Plainville region, the difference is slight. For property crime, it is more significant—only a 9.8% decrease in the Plainville region compared to a 16.6% decrease in the comparison communities and a 15.6% decrease statewide. The further categories show that the variance is explained partly by burglaries (reduced in the Plainville region but not as much as the other areas) and credit card fraud, which as we have already analyzed skyrocketed in the Plainville region after the opening of Plainridge Park.

(The “less decreased” burglary percentage in the Plainville area is explained almost entirely by two series experienced by the North Attleborough Police Department in the second half of 2015, both of which resulted in the arrests of heroin-addicted offenders with no apparent casino motive. If those series are eliminated from the total, the decrease in the Plainville area becomes 28.9%, or almost identical to the comparison and statewide totals. Of course, those other areas may have experienced series, too, so such an elimination is not statistically kosher. But overall, we find no evidence among the police reports that ties a single burglar or burglary to a Plainridge Park motive.)

The table highlights the increase in credit card fraud that we discussed in a previous section. Not only is the Plainville area seeing a major spike in this crime; it is significantly outpacing the comparison communities and the statewide total. But the Plainville-area increase in “con games” and identity theft doesn’t look as bad in the context of the comparison areas. These, in fact, seem to be something of a statewide theme.

To further put these statistics in context, we take a trip back to the previous year, before Plainridge Park opened. This was a year in which crime totals effectively “bottomed out,” both statewide and nationally.

Changes in crime in study areas and comparison areas, July-December 2014 vs. average of previous 5 years

Measure	Study Area	Comparison 1	Comparison 2	Comparison 3	All Comparisons	All Massachusetts
All Violent Crime	-10.7%	-11.1%	-13.7%	-24.5%	-16.4%	-5.8%
All Property Crime	-17.6%	-15.2%	-16.1%	-18.1%	-16.4%	-13.8%
Robbery	-65.0%	-48.9%	-55.6%	-39.7%	-48.6%	-9.1%
Burglary	-32.4%	-19.5%	-24.6%	-44.0%	-29.0%	-29.6%
Auto Theft	-34.6%	-22.0%	-14.4%	-17.9%	-17.7%	-18.1%
Counterfeiting/Forgery	-25.1%	+10.5%	-26.5%	-39.7%	-17.5%	-15.5%
Credit Card Fraud	-30.8%	+13.0%	-12.8%	-38.1%	-10.6%	-3.9%
Fraud/Con Games	-32.8%	+14.3%	+23.9%	+6.5%	+14.7%	+17.8%
Identity Theft	-16.0%	+20.0%	+68.2%	+8.1%	+39.3%	+20.7%
All Fraud/Forgery Offenses	-28.0%	+14.3%	+4.3%	-11.5%	+3.9%	+7.1%
Theft from a Vehicle	+25.3%	-32.5%	-27.5%	-30.7%	-30.1%	-19.1%
Drug Offenses	-20.0%	-17.8%	-17.1%	-35.7%	-21.4%	-5.1%

Here, we see the Plainville region better fitting its counterparts in almost all categories. For all property crimes, the variance is trivial. Increases in fraud, identity theft, and credit card fraud have yet to take hold, and the Plainville region is doing much better than its other Massachusetts counterparts. The only crime in which it truly seems to be suffering is thefts from vehicles: waves of one-night sprees, occurring mostly in residential driveways at night, are affecting almost all the Plainville-area communities, driving up this figure during a time in which it is decreasing statewide. (Again, remember that this is during the pre-casino period.)

The difference between the two tables suggests that after the introduction of Plainridge Park, no increases manifested themselves in the more “common” or “expected” crimes, like robbery, auto theft, and burglary. Increased police presence may in fact have served to suppress those types of traditional street crimes. Instead, if Plainridge Park has had an impact on its host communities, it is being felt in those fraud categories: credit card fraud, certainly, which is not only increased in the region but increased in comparison to other communities. Other

fraud categories—con games and identity theft in particular—are doing worse in the comparison areas than Plainville for 2015, but these were crimes that the Plainville area hardly ever experienced in years prior.

There are other factors at work, too, including North Attleborough's improvements in crime coding—which affected a lot of the fraud categories—starting in 2015. For now, the conclusion that we draw from the statewide comparisons is that *if* Plainridge Park is having an impact on the surrounding communities, it is being felt primarily in these fraud categories. Again, this is based on only a part-year dataset, and we look forward to repeating and deepening the analysis when more data is available.

Appendix A: Abbreviations and definitions

Acronyms and abbreviations

CAD	Computer-aided Dispatch (system)	A police database that holds information about police dispatches to calls for service, including incidents discovered by police officers. Some but not all of the incidents reported in CAD are crimes and have longer records in the RMS.
IBR	Incident-based reporting	See NIBRS.
MGC	Massachusetts Gaming Commission	The commonwealth agency charged with overseeing and regulating gaming in Massachusetts
FBI	Federal Bureau of Investigation	National investigative agency, part of the U.S. Department of Justice, in charge of collecting national crime statistics.
IACA	International Association of Crime Analysts	A global nonprofit professional association that provides training, literature, and networking to individuals who analyze crime data.
NIBRS	National Incident-based Reporting System	FBI program for data collection that supersedes UCR. Collects more specific data about a wider variety of crimes. With only a few exceptions, all Massachusetts agencies report to NIBRS and all Massachusetts RMS vendors have implemented NIBRS coding standards.
ODBC	Open Database Connectivity	A technology developed by Microsoft that allows any application that uses a database to connect to any database source. The primary mechanism by which we can extract data from police CAD and RMS databases.
RMS	Records Management System	A police data system that stores information about crimes and offenders. See also CAD.
SEIGMA	Social and Economic Impacts of Gaming in Massachusetts	A multi-year research project hosted by the University of Massachusetts Amherst School of Public and Health Sciences. The SEIGMA project has a much broader mandate for its study than just crime.
TITO	Ticket in, ticket out	A system for managing and collecting gaming funds. Instead of receiving cash for winnings, patrons receive a bar-coded ticket that can be exchanged for cash or inserted into other machines for further play.
UCR	Uniform Crime Reporting (program)	National program for the reporting of crime statistics to the FBI. Captures only summary data about a limited number of crime types. Contrast with NIBRS.

Crime definitions

The following are definitions of the crime categories used in this report. These are mostly drawn without modification from the FBI's definitions for NIBRS crime categories. In almost all cases, *attempts* to commit these crimes are counted equally with completed offenses. These crimes must, of course, be reported to the police to be included in this report.

Aggravated Assault: An attack by one person upon another for the purpose of inflicting severe bodily injury. Aggravated assault is either accompanied by the use of a deadly weapon (e.g., gun, knife, club) or some mechanism that would result in serious harm (e.g., pushing someone down a staircase), or by serious injury even with a weapon that isn't normally "deadly" (e.g., punching someone and breaking his jaw). If the incident involved neither a deadly weapon nor serious injury, it's coded as a simple assault instead.

Arson: Intentional burning of a structure, vehicle, or personal property.

Auto theft: Thefts of vehicles capable of operating under their own power, including automobiles, trucks, buses, motorcycles, and snowmobiles.

Bad checks: The issuance of checks on accounts with insufficient funds. This type of crime is typically only reported by police when an arrest is made or an individual is charged.

Burglary: Unlawful entry of a structure, including residences, commercial buildings, and government buildings. The entry does not have to occur by force (e.g., a "break-in"). The usual motive for burglary is to steal something inside, but this isn't a necessary part of the definition.

Counterfeiting/forgery: Use or possession of an altered, copied, or imitated negotiable or non-negotiable instrument, including U.S. currency, checks, and money orders.

Credit card fraud: Use of a stolen credit card or credit card data to obtain goods or services.

Disorderly: Disorderly conduct that rises to the level of a criminal charge.

Drug offenses: Manufacturing, sale, trafficking, transporting, or possession of controlled substances. Typically, "incidents" of such crime are arrests, as the only way such incidents are reported is when they are discovered by the police.

Drunk driving: Operation of a motor vehicle while intoxicated; usually while above a state-designated legal blood alcohol level. As with many of the drug and alcohol categories, such incidents are only reported when discovered by the police, usually resulting in an arrest.

Drunkenness: Naturally, not all incidents of intoxication are a police matter. Police incidents that fall into this category are usually incidents of either public intoxication or individuals so dangerously intoxicated that they are placed into protective custody until sober.

Employee theft: Also, "embezzlement." Theft of an employer's property by an employee.

Family offenses: Unlawful, nonviolent acts by a family member that threaten the physical, mental, or economic well-being of another family member and are not classified under any other category. This category is only reported when someone is charged, and it almost always involves violations of restraining orders.

Forgery: Forgery of personal checks, business checks, U.S. currency, or similar negotiable and nonnegotiable documents.

Fraud. Theft of property by lying in such a way that convinces a victim to surrender money or goods. It is theft through some kind of scheme, “con game,” or ruse.

Identity theft: Representation of oneself as another (actual) person, or use of another person’s identifying information to obtain goods or services, housing, medical care, or status.

Kidnapping: The abduction of one person by another, whether through force or guile. Most incidents coded as such as “custodial” kidnappings involving a parent taking a child in violation of a custodial agreement.

Liquor law violations: Illegal manufacturing, sale, possession, or consumption of intoxicating drinks, often because the offender is below the legal age.

Murder: the killing of one person by another, including non-negligent homicides.

Other thefts: A general category that includes thefts of services (e.g., gas drive-offs), thefts from persons (e.g., pocket-picking), thefts from outdoor public areas. Essentially, any non-burglary, non-robbery theft that is not covered in one of the “theft” or “shoplifting” categories (below) is categorized here.

Pornography: Possession, sale, or manufacturing of illegal pornography. Since pornography is legal in Massachusetts, such incidents generally involve minors, either as the subjects or recipients of the pornography.

Prostitution: Promotion or participation of sexual activities for profit. As with drug offenses, most “incidents” of prostitution are arrests, as the crime is rarely reported except when discovered by the police.

Purse snatching: A theft in which an offender grabs a purse off the arm of the victim. If any significant force, violence, or threats are employed, this crime becomes a robbery.

Robbery: Taking or attempting to take anything of value from another person by force or violence or threat of force or violence. “Muggings” and “hold-ups” are examples of robberies. A robbery requires a direct confrontation between the offender and victim; houses and buildings cannot be “robbed.”

Sexual assault: Any sexual act directed against another person (of either sex), either by force or otherwise against the person’s will, or non-forcibly but when the victim is incapable of giving consent because of temporary or permanent mental or physical incapacity. This category combines rapes, indecent assaults, molestation, and sexual penetration with an object.

Shoplifting: Thefts of items offered for sale at retail establishments.

Simple assault: An assault that does not involve a dangerous weapon and does not result in significant injury.

Stolen property offenses: Possession or sale of property previously stolen including motor vehicles and personal property. Often, the person possessing the property is the one who stole it in the first place, but this category is used when the actual thief cannot be determined.

Thefts from buildings: Thefts of items from commercial or government buildings open to the public, where such entry does not constitute burglary. This often takes the form of thefts of employees’ property at businesses open to the public.

Thefts from machines: Thefts from coin-operated machines, either for the coins or for the products inside.

Thefts from persons: Thefts of personal property from the direct control of the owner. These often take the form of pocket-pickings or thefts of or from diners' purses at restaurants. If any force, violence, or threats are employed, this crime becomes a robbery.

Thefts from vehicles: Thefts of items from motor vehicles. The category includes breaking into vehicles (e.g., smashing a window), unlocked entry, and thefts of items from a vehicle's exterior, such as pickup truck beds. Note that thefts of vehicle parts are in a separate category.

Thefts of vehicle parts: Theft of parts or accessories from motor vehicles, including wheels, license plates, and engine parts.

Threats: Threats to commit physical violence by one person against another. If any weapon is actually displayed or employed, or if an assault is actually attempted, the crime is categorized as a simple or aggravated assault instead.

Trespassing: Illegal entry to a non-public part of a residence or business. Such entry is rarely to the *interior* of the property, or it would be coded as burglary instead. Most reportable incidents of trespassing are either after notice (e.g., a repeat shoplifter who is ordered not to return to a store) or at posted locations (e.g., construction sites, abandoned buildings).

Vandalism: Destruction or defacement of public property, buildings, vehicles, or personal property.

Weapon offenses: Possession, sale, or manufacturing of illegal weapons. This is often an additional offense discovered by police during arrests for other crimes.

Offense types by associated crime category

Offense	Category
Aggravated Assault	Violent Crime
All Other	Other Crime
Arson	Property Crime
Auto Theft	Property Crime
Bad Checks	Property Crime
Burglary	Property Crime
Credit Card Fraud	Property Crime
Disorderly	Societal Crime
Drug Equipment Offense	Drug/Alcohol Crime
Drug Offense	Drug/Alcohol Crime
Drunk Driving	Drug/Alcohol Crime
Drunkenness	Drug/Alcohol Crime
Employee Theft	Property Crime
Extortion	Property Crime
Family Offenses	Other Crime
Forgery	Property Crime
Fraud/Con Games	Property Crime
Gambling	Societal Crime
Identity Theft	Property Crime
Kidnapping	Violent Crime

Offense	Category
Liquor Law Violations	Drug/Alcohol Crime
Murder	Violent Crime
Other Thefts	Property Crime
Peeping Tom	Other Crime
Pornography	Societal Crime
Prostitution	Societal Crime
Robbery	Violent Crime
Runaway	Other Crime
Sexual Assault	Violent Crime
Shoplifting	Property Crime
Simple Assault	Violent Crime
Statutory Rape	Other Crime
Stolen Property Offense	Property Crime
Thefts from Buildings	Property Crime
Thefts from Vehicles	Property Crime
Thefts of Vehicle Parts	Property Crime
Threats	Other Crime
Trespassing	Other Crime
Vandalism	Property Crime
Weapon Offenses	Societal Crime

Call for service definitions

Calls for service include both criminal and noncriminal police incidents and activities. In the case of criminal activities, such incidents receive a longer, more detailed report in the police records management system, and it so it makes more sense to analyze them using the crime categories above than in their original call-for-service form. Thus, the only incident types we have selected for analysis in this report are noncriminal. Definitions of those types appear below. Because the police officer does not usually write a full report for calls for service, the dataset available for analysis is more limited.

Administrative: A wide variety of call types that have to do with the administration of a police department, such as delivery of documents to businesses or other government facilities, attendance at meetings, vehicle maintenance, or even meal breaks. Agencies use their call-for-service systems to document such activities so that, later, they can determine what a particular officer or unit was doing at a particular time, although the incidents are not truly “calls for service.” Practices differ significantly between police agencies as to what is reported under this category, and it is generally not useful for analysis.

Alarm: A burglar, panic, or medical alarm that required a response but (probably) turned out to be false or would have a different final code.

Animal complaint: Calls involving sick, dangerous, or wild animals, animals in danger (e.g., left in a hot or cold car), or loose or noisy pets.

Assist other agency: A call type that involves rendering aid to a neighboring police or other government agency for any number of purposes, including serious crimes, fire and medical issues, and traffic issues.

Crime enforcement: Any number of pro-active police activities meant to deter crime, generally taking the form of a “directed patrol” to a particular location during a peak time for criminal activity (based either on citizen complaints or internal analysis). Though not a technical “call for service,” such incidents are recorded in the CAD database to document the officer’s activity.

Disabled vehicle: A call for service for a vehicle suffering physical or mechanical trouble, usually broken down in an active roadway.

Disorderly conduct: Any of a variety of types of disorderly conduct and excessive noise.

Domestic dispute: A dispute between family members, spouses, or intimate partners that has not risen to the level of physical violence.

General service: Minor calls for service that involve rendering aid to residents and visitors for a variety of issues such as giving directions, installing car seats, dealing with lockouts, and providing physical aid.

Lost property: Calls for service involving lost personal property such as wallets and mobile phones. If there is any indication of theft, these incidents are typically reported under the appropriate crime category.

Medical aid: All calls for medical aids except unattended deaths and overdoses. Police responses only are included in the figures in this report.

Missing person: a runaway or other missing person.

Prisoner transport: documentation of a police agency transporting an arrested person from one facility to another.

Psychological issue: Calls for service involving individuals with mental health issues.

Suspicious activity: Any suspicious person, vehicle, or other activity, whether identified by an officer or citizen.

Traffic collision: A collision involving at least one motor vehicle.

Traffic complaint: Complaint about reckless driving, illegal or unsafe parking, or other traffic issues.

Trespassing: Trespassing on private or public property.

Vehicle stop: An officer pulls over a vehicle for a moving or equipment violation.

Warrant service: a call type that documents the service, or attempted service, of an arrest warrant or search warrant. The category is entirely police-directed.

Youth disorder: Disorderly incidents involving youths congregating, skateboarding, making noise, and so forth.

Appendix B: Data schematic and fields

To synthesize data from the region’s police agencies, I created a master database architecture into which to funnel cleaned and converted data from each individual agency’s computer-aided dispatch (CAD) and records management systems (RMS).

Understanding the data schema means understanding how police record data. All “incidents” to which police respond—including crimes, traffic collisions, noise, disorder, and self-initiated activities like building checks and traffic enforcement—are stored in the computer-aided dispatch (CAD) file as “calls for service” (even though many of the incidents do not technically result from calls). Such data is generally entered by the dispatcher as the call is received and progresses. This database is primarily concerned with recording basic information about the incident, including the date, time, location, incident type, and who responded. It does not contain detailed information about what happened in the incident, although some basic contextual information can often be found in the dispatcher’s notes (which we, as per agreement with the local agencies, did not collect).

A subset of these calls-for-service, generally all crimes and any other incident in which something significant happens that the officer wants to fully document, becomes a records in the records management system (RMS). This is the police officer’s full report of the incident, to include the dates and times of occurrence, locations, involved individuals and businesses, involved vehicles, property stolen and damaged, and a full narrative. We collected as much non-personally-identifiable data as possible from this system. We did not collect the narrative, as it by nature contains much confidential and personally-identifiable data.

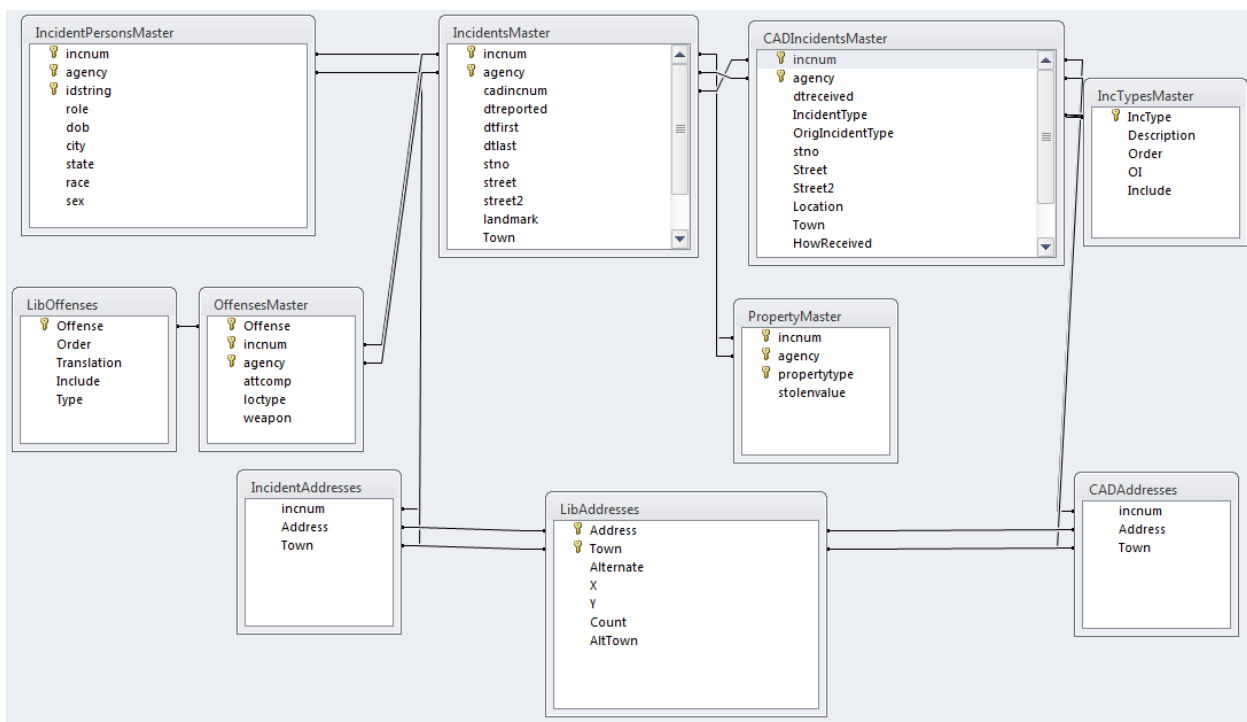


Table relationships in the combined database.

There are differences among different CAD and RMS vendors about how this data is stored. Fortunately, all five agencies involved in this project adhere to National Incident-Based Reporting System (NIBRS) standards for the collection of crime data, making it relatively easy to fuse the five datasets. There is no such national standard for CAD data, although most systems track the same fields. They do not track the same incident type codes, so the different code libraries used by the five agencies had to be translated into a common “master” code table.

The resulting database consists of 5 vital data tables, 3 vital code tables, and 2 vital queries (views). These are:

- **IncidentsMaster:** a table that combines core crime incident data from each of the agencies, to include time, date, and location of the crime.
- **IncidentPersonsMaster:** a table that combines data about individuals involved in police incidents, including the involvement type (role), date of birth, race, sex, and town of residence.
- **OffensesMaster:** a table that records each offense committed in each incident.
- **LibOffenses:** a library table that stores key data for each offense type, including the overall category (violent, property, drug/alcohol) and whether to include it in the analysis.
- **IncidentProperty:** a table combining data about stolen and damaged property in each incident.
- **CADIncidentsMaster:** a table storing the core call-for-service data from each of the agencies, to include time, date, and address of the call for service.
- **LibIncTypesMaster:** a library table storing all the call-for-service incident type codes considered by the database. Other tables convert the incident type libraries used by each agency to one of the “master” codes.
- **IncidentAddresses:** a view that concatenates address data (street number, street, intersecting street) for data stored in the “IncidentsMaster” table.
- **CADAddresses:** a view that concatenates address data (street number, street, intersecting street) for data stored in the “CADIncidentsMaster” table.
- **LibAddresses:** a library table that converts each address to X and Y coordinates. This was generated by a long process of both automatically and manually geocoding the data from the contributing agencies.

To populate these tables, the following data elements were collected from each agency’s CAD and records management system (RMS). The period of extraction was from January 1, 2010:

From the main CAD table

- Incident/CAD number
- Report date and time
- Call type
- Call location (all related fields)
- Type of service (police/fire/ems)
- How call received (e.g., 911, officer-initiated)
- Once developed, any fields that indicate a “casino-related” flag.

From the main crime/incident table

- Case/incident ID
- Related CAD number
- Reported date and time
- Earliest date and time occurred
- Latest date and time occurred
- Incident location (all related fields)

From the crime/incident offense and weapons tables:

- Case/incident ID
- Offense type and related IBR code
- Attempted/completed code
- Location type
- Weapon codes
- Drug type and activity codes

From the crime/incident associated persons/suspects tables:

- Case/incident ID
- Person role
- Person race
- Person sex
- Person DOB
- Person town of residence
- Person state of residence
- Relationship

From the crime/incident associated property table:

- Case/incident ID
- Property involvement (stolen, damaged, etc.)
- Property type
- Property make
- Property model
- Property value
- Property description

From the crime/incident associated vehicles table:

- Case/incident ID
- Vehicle role
- Vehicle make
- Vehicle model
- Vehicle model year
- Vehicle registration state

From the master crash table:

- Crash ID
- Related CAD number
- Reported date and time
- Crash location (all related fields)
- Crash type
- First harmful event
- Signal device codes
- Roadway type and condition codes
- Weather condition codes